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FOREIGN CORRESPONDENCE.

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PARIS, June 18th, 1854.

DEAR DOCTOR:—

My previous letters have related, for the most part, to the hospitals of Paris. I propose in this letter to give you some account of the *école de médicine*.

The *école de médicine*, the seat of the *faculty of medicine*, in the Academy of Paris, is situated in the place *d'école de médicine*, on a street bearing the same title, on the left bank of the Seine, in what is generally known as the *Latin quarter* of Paris. The present edifice was commenced in 1769, the corner-stone being laid by Louis XV, and was inaugurated in 1776. I quote a description of its architecture from the Paris Guide by GALIGNANI. "The front toward the street is 198 feet in length; the lateral wings are connected by a portico formed of a double range of coupled Doric columns, interrupted by an arched entrance leading into a rectangular court, and surmounted by a bas-relief representing Louis XV, accompanied by Wisdom and Beneficence granting privileges to the school of surgery, and the Genius of the Arts presenting to the King a plan of the building. The court is 66 by 96 feet. At

the bottom is a portico of six Corinthian columns, of large proportions, resting on steps and surmounted by a pediment. The bas-relief of the tympanum represents Theory and Practice joining hands on an altar. The inner frieze of this portico bears medallions, with the portraits in bas-relief, of PITARD, DE LA PEYRONNIE, PARE, MARECHAL, and PETIT. The amphitheatre to which it leads will contain 1400 students. It is a hemicycle, lit by a sky-light, and contains a monochrome fresco by GIBELIN, dated 1775, illustrative of the utility of the medical science."

In addition to the fresco ornaments just mentioned, the amphitheatre contains several busts and a splendid painting intended to commemorate the substitution of the ligature for the hot iron in arresting hemorrhage, underneath which is the following inscription:—*Ils étanchent le sang consacré à la defense de la patrie. La bienfaisance du soverain hate leur progrés, et recompense leur zèle. Ils tiennent des Dieux les principes qu'ils nous ont transmis.*"

On the opposite part of the amphitheatre is inscribed the following motto:—"*Ad cædes hominum prisca amphitheatra patebant. Ut longum discant vivere nostra patent.*

The walls have a dingy color, no effort being made to diminish the appearance of antiquity by the use of whitewash or paint. A niche contains a kind of pulpit, elevated four or five feet from the floor, for the lecturer; or he occupies a chair upon the floor behind a table covered with green baize. All the lectures that I have heard have been delivered literally from chairs, i. e. the professors sitting.

The seats for students consist of plain board benches without railing or backs. As regards convenience and comfort for the lecturer and his auditory, the arrangements are inferior to those of any medical-lecture room in the United States that I have seen. Moreover, there is but a single amphitheatre, or lecture-room in the building. The lectures are given in succession, in the same room, including those on anatomy and chemistry.

Four lectures are given daily during the winter and summer; at present as follows: two from 10½ to 12½ A. M., and two from 3 to 5 P. M. The courses now going on are on Medical Natural Philosophy, by GAVARRET; Materia Medica, GRISOLLE; Hygiene, BOUCHARDAT; Surgical Pathology, CLOQUET and BROCHA; Medical

Pathology, Requin; Pathological Anatomy, Legal Medicine, Adelon. During the winter, courses are given on several branches which do not enter into the summer session, viz: Anatomy, Physiology, and Chemistry.

Attendance at these courses is not obligatory upon the medical student pursuing his studies for a degree. No tickets are issued, and admission is free to any one. Hence, the different courses are attended by different persons, and the size of the auditory differs according to the subject, and the popularity of the lecturer. At the close of one lecture a considerable portion of the class leave the amphitheatre, and as the hour is about to expire persons are coming in who desire to attend the lecture which is to follow. As there is little or no interval between the ending of one lecture and the beginning of another, this change of auditory gives rise to considerable noise and confusion. There is no applause when the professor enters the amphitheatre, and very rarely any demonstration of approbation when the lecture is ended. The students generally sit with their hats on, and a large proportion take notes. Whenever I have been present the demeanor of the class has been respectful and decorous, except that more or less come in after the lecture has been commenced, and leave during its delivery.

The *faculty of medicine* consists of 26 persons, appointed by government since the accession of Napoleon III. They receive a fixed salary from government, varying from four hundred to two thousand dollars. Their emolument is thus entirely independent of the number of students. It is left optional with the student to avail himself of their lectures or not. It is not a requisition for graduation that he shall have attended any of them. He is obliged to pursue the study of medicine for four years before he is entitled to a degree; and the fact of this requisition having been complied with is determined by means of quarterly inscriptions. He must inscribe his name at the bureau of the faculty every three months, having previously acquired the diploma of a bachelor of sciences. At the end of the first year he is examined in chemistry, natural history and botany. The second examination takes place at the expiration of the third year. He is then examined in anatomy and physiology. At the end of the fourth year, provided all his inscriptions have been duly made, he is examined in external and

internal pathology, hygiene, medical jurisprudence, pharmacy, materia medica, therapeutics and midwifery. He is also subjected to a practical examination at the bed-side, two hospital cases being selected, of which he is required to give the diagnosis, prognosis and treatment. He is also obliged to write and have printed a thesis, the subject of which is optional; and before taking the degree of Doctor of Medicine he must have served a year in a hospital.

The examinations of medical students are public. I chanced to be in the museum of Orfila a few days since while three examining boards were in session. The examiners were clothed in their official costume, consisting of caps with red crowns, gold bands and tassels; gowns of red silk faced with black, and bands tipped with ermine; or black gowns and red collars. The examinations were conducted in a familiar colloquial manner. They did not appear to be severe, but, in general, so long as I stood among the crowd of spectators, they were sustained but indifferently by the candidates. Official notice of the result of the examination in each individual instance is conspicuously placed on the advertising board within the court of the *école*. I noticed in this announcement that a few had been found perfect; others satisfactory; some passable, and several had acquitted themselves very poorly.

The expenses incident to a medical education here consist of a fee of from six to ten dollars for each of the sixteen inscriptions; a fee of six dollars paid at each of the five examinations; twelve dollars for an examination of the thesis; twenty dollars for the diploma, and from forty to fifty dollars for printing the thesis. The total amount is from two hundred and twenty to two hundred and sixty dollars. This is exclusive of private courses, requiring fees, which the student may see fit to take during the four years; and also exclusive of the expenses of dissection which, however, are moderate.*

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* One can form but an imperfect idea of the number of medical students in Paris by the size of the classes at the different lectures, at the *école de Medicine*; still less by the attendance at any one of the hospitals. The only way to obtain correct information on this point is to ascertain the number of inscriptions. The number in 1852 was 1,437. A great many foreign countries are represented among the students collected here—Germans, Swedes, Russians, Turks, Greeks, etc. It is

The expenses of medical education have reference only to those who aim at a medical degree. To medical men of all countries, and to those who wish to study any branch as a matter of science or accomplishment, not with a view to practice, the lectures and all other facilities are open without charge.

The *école de mécicine* contains a library of 30,000 volumes. This is open daily, excepting Sundays and Thursdays, from the hour of 11 till 4. The second story of the left lateral wing is devoted to this purpose. The library room is provided with tables, comfortable chairs and ink stands, and from thirty to fifty persons may here generally be seen reading or writing, each attending to his own business, no audible conversation being permitted. The respect for order and propriety of deportment so conspicuous in all the public places in Paris, is a sufficient guaranty against infractions of this rule.

The front of the edifice, and a portion of the right lateral wing contain the *Orfila museum*, so called in commemoration of the services rendered by ORFILA to science and medical education. The space allotted to the museum embraces a hall extending the entire front of the edifice, with a gallery on all sides, and two rooms in the right wing, about sixty feet in length. The front hall is devoted to Anatomy, human and comparative. A marble statue of CUVIER stands in this hall, represented in a sitting posture, examining a fossil. At the bottom of the staircase leading to the museum, is a colossal statue, in plaster, of BICHAT, represented counting the pulsations of the heart in a child standing nude before him.

The central space of the large hall into which one first enters, is filled with skeletons, complete and united, of a large number of animals—the horse, cow, lion, bear, dog, kangaroo, hyena, cougar, wild boar, ant-eater, etc., etc. The smaller specimens are con-

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rare to meet with students or practitioners from Great Britain. The number of Americans is always considerable, but the larger proportion have graduated before coming to Paris. It is not easy for an American to determine with much exactness how many of his medical countrymen are here, because each having his particular objects and preferences, they are distributed in groups at the different hospitals, and private courses. From what I can learn there were probably not far from a hundred here during the winter. At the present time the number is diminished by one third at least.

tained in glass cases affixed to the walls, on every side. These specimens ars systematically arranged in the following classes:—osteology, arthrology, aponeurology, myology, neurology, ovology; lymphatics and lacteals, organs of the circulation, of digestion, of respiration, of secretion, elementary tissues. Each of these classes is illustrated by a great number and variety of beautiful specimens. I will notice some of these groups briefly, in order that you may form a general idea of the extent of the museum. To describe in detail would require too much space.

The department of human osteology embraces several skeletons united, a series of detached bones, collections of the vertebral bones united, pelvis, and a great number of skulls, and plaster casts of crania. The division of comparative osteology, in addition to the skeletons already referred to, includes several hundred skeletons, and crania of inferior animals.

The myological group consists of dried preparations, in many of which the volume of the muscles appears but little diminished, finely colored, the latter prepared by M. LUCQUET, and artificial models by AUZOUX. These preparations, natural and artificial, embrace a great variety of inferior animals as well as man.

In the class neurology, the brain and nerves are exhibited in a great variety of modes by means of wet and dried preparations, and models in wax. The superficial nerves of the lower extremity are beautifully shown on the integument turned inside out, like the finger of a glove, dried and varnished, the volume of the limb being preserved. The spinal cord and nerves in a great variety of inferior animals are displayed in jars, suspended in a dark purple fluid. The organs of sense are illustrated by a great number of specimens. I counted sixty-five small jars containing wet preparations of the various structures composing the eye, eighty-nine dried preparations of different parts of the same organ, and seventy-eight artificial models—in all two hundred and thirty-two distinct pieces.

Under the head of ovology an oil painting first meets the eye, representing a female, of the size of life, in parturition, the head just emerging from the vulva. Next comes a series of wax preparations illustrating the development of the ovum, and the different stages of gestation, from the entrance of the ovum within the

uterus to the full period, after the observations of W. Erdl, Professor in the University of Munich. Over the series, on a metallic plate is inscribed the following:—*Evolutio ovi embryonis que humani quam observarit, et per* Paulum Teiller *in cera effigendam curavit.* Dr. M. Erdl, *medicinæ professor p. o. monarchii*, 1845. This class also embraces a great number of fœtuses of all ages.

The lymphatics and lacteals are finely displayed by mercurial injections. Among the preparations are several of the mesentery and portions of the intestines of the horse, with the lacteal vessels injected.

The organs of the circulation include numerous specimens of the human heart in alcohol; a great number injected and dried, representing every age; different portions and sections of the organ; the heart and lungs united, and the chest with all the organs *in situ*. Preparations of arteries and veins injected are very numerous, and brilliantly colored. Among the latter I noticed several, showing the relations of the blood vessels of the thigh to the membranes, made with great care and very beautiful.

The respiratory organs consist of the vocal organs in different animals, and a number of dried preparations of the larynx in man, the veins in general being displayed. These parts are also represented by several wax models. The varieties of conformation in the breathing apparatus in the different genera of animals are illustrated, and the human lungs of fœtal life, and at different ages after birth.

Arranged under the head of organs of secretion, are preparations of the liver and kidneys, minutely injected with size; of the mammary gland injected with mercury, and a formidable array of the male organs of generation. The penis is presented in every variety of size, form and color, and describing all sorts of parabolic curves. I had the curiosity to count the dried preparations of the latter organ; the number was one hundred and five.

Two rooms are appropriated to natural history, materia medica, and surgical instruments. Here are large collections of shells, insects, and the different genera of inferior animals. Articles of the materia medica are exhibited in jars and in open glass vases. The anatomical and surgical instruments make a fine display.

Among them is exhibited the case used for the autopsy of Napoleon. In this part of the museum, amongst other objects pertaining to natural history, is a model in wax of the famous dwarf *Bebe*, twenty inches in height.

From this very cursory sketch it will be justly inferred that the Orfila museum is worthy of the *école de médicine* of Paris. I have never seen a collection, so large and splendid, of objects illustrative of human and comparative anatomy, natural history, and materia medica. I have not, however, as yet compared it with other museums in Europe, especially with the Hunterian museum of London, which I have been told is superior. Collections illustrating the same departments of science are to be found at the *Jardin des plants*, in addition to the extensive botanical and mineralogical cabinets at the latter place. I have not yet found time to examine these. The cabinet of comparative anatomy at the *Jardin des plants* is said to be the richest in existence. For this prominence it is mainly indebted to the labors of the great CUVIER. The geological collection also is immense, consisting of upwards of 200,000 specimens, all systematically arranged to exhibit the successive gradations of animal life from man to the simplest form of manifestation.

Neither the Orfila museum, nor the cabinets at the *Jardin des plants*, contain illustrations of disease. The *Musée Dupuytren* is devoted to morbid anatomy. This museum is contained in a building erected for this purpose, situated but a few rods from the *école de medicine*. It contains a large number of diseased and fractured bones, wet and dried specimens, and artificial models. They are all nicely prepared and systematically arranged in glass cases. In magnitude and richness, however, it does not correspond with the Orfila museum. Another less extensive pathological museum is connected with the amphitheatre of anatomy at *Clamart*, situated in another part of the city.

The *école pratique d'anatomie* is a branch of the *école de medicine*,and is situated but a short distance, adjoining the *Musée Dupuytren*. Here, and at Clamart, just mentioned, dissections are performed. To these two places the bodies of those who die at the hospitals, and are unclaimed by friends, are transferred. The number of subjects received annually exceeds 4,000. The supply

is always abundant, and the expense to the student very moderate, a fee of six dollars securing all that he requires for a season.

Lectures are also given at both places by *Aggrégés*, a corps of subordinate professors, who are awaiting vacancies to be promoted to regular chairs. This corps embraces those most eminent for talent and acquirement irrespective of the regular professors in the *école de médicine*, and as they have the latter position to win they are the active working men among the distinguished teachers. Their courses are generally gratuitous, but sometimes a small fee is required. These lectures are exclusive of the great number and variety of private courses which are given by persons at their own rooms or dispensaries. For the latter an inscription with a fee are sometimes demanded, and in other instances there is no charge.*

The lectures at the *école de médicine*, the *école d'pratique*, and the private courses; the clinical visits, lectures, and conferences at the hospitals; the dissections and the museums, constitute the sources and means of medical instruction in this metropolis. In this connection I might naturally propose to myself the question in what particulars, and to what extent, will the American medical student find in these sources and means of instruction advantages which are not equally available at home. To this question I have given considerable thought since I came to Paris, and I shall continue to keep it in view during the remainder of my sojourn here, with the intention of making it a subject of discussion hereafter. For the present I shall waive any thing like a discussion of it. That there are certain facilities for pursuits pertaining to medical science to be found here which do not exist in the same degree with us, must be admitted. But in admitting this, I am not willing for a moment to concede that the fact involves, of necessity, any inferiority in the position of the American medical profession, individually or collectively. Attainment, skill and just claim to eminence, in medical, as in other pursuits, Providence has ordained to depend mainly on mental ability and industry. If the sciences of life and disease may in some respects be

* It is a fact well known here, that much the larger proportion of the amount of fees paid for the private courses, and to *internes* for clinical instruction at the hospitals, comes from foreigners, and especially from the American students and practitioners who visit Paris for medical improvement.

prosecuted under more favorable auspices in Europe, every thing necessary to the highest point of acquisition is attainable at home, and, as an American, I am reluctant to believe that the American mind need fail to accomplish, even under some difficulties, as much as the successful intellectual laborer in other countries. If it be true that the standard of medical education is higher here than with us; if in the ranks of the profession the number is greater of those conspicuous for valuable services rendered to medicine, and if the medical literature of France is richer and more copious than ours, it behooves us to inquire into the reasons for such a disparaging contrast, and then endeavor to do away with the grounds on which it rests. I believe that, at the present moment, our country can boast of members of the medical profession as able and industrious as those of any other country. We have teachers, writers and practitioners who would not suffer by comparison, in every respect, with the most distinguished on this side of the Atlantic. It rests with ourselves to take a national position, as regards the science of medicine, in keeping with the political importance of our republic. In deciding respecting the expediency of advising young men to come to Paris to pursue medical studies, there are considerations to be taken into account other than those which concern the opportunities for improvement which are here offered. Giving due weight to the latter, as well as the former, I do not hesitate to express the opinion that the American student, in the majority of instances, will do best to remain at home. I shall content myself with expressing this opinion, adjourning, as I have said, the discussion of the subject to a future time.

The appointments to official places, excepting the professorships, as is well known, are determined by the "*concours.*" The *concours* consists of a public competition for vacant offices by the candidates, and is intended to constitute a fair test of the superior talents and attainments of the successful aspirants. Certain subjects are given to the competitors for impromptu discussion, orally, and in writing. They must also write and defend publicly a thesis on a given subject.

They who acquit themselves best, are adjudged by the Faculty entitled to the places competed for. Unti the accession of the

present Emperor to the throne of France, this was the system pursued in making all the appointments. It is still retained with respect to Hospital physicians and surgeons, the *internes* and *externes*, and *aggregés*. The professors, however, are appointed by the Emperor. The system of *concours* undoubtedly has many recommendations. Its influence on the profession must be good. It is, moreover, based on a principle of equity. It provides against incompetent incumbents. If, however, common report be correct, experience shows that it is not secure against partiality, and, as a test of qualifications, it is by no means infallible. The permanency of the appointments to professorships, and the complete independence of the professors as respects their classes, although just when the offices are considered as the reward of past services, are of doubtful expediency with reference to the best interests of education. It is, however, wisely arranged that attendance on the lectures by the professors is not obligatory; and the medical student is at liberty to avail himself of the instruction of those who have not reached the *ultimatum* of official position, and have therefore greater inducements to continued exertion.

I will try to write two or three more letters while I remain here if you think it worth while to do so. I will give an account of *St. Louis* hospital, of the Academy of Medicine and other Societies, of the Medical Jounrals, and of the customs of practitioners, &c.

A. F.

ART. II.—ON A NEW MODE OF REDUCING PROLAPSUS UTERI.

BY REUBEN SEARCY, M. D., OF TUSCALOOSA, ALABAMA.

MR. EDITOR:—I am not aware that any writer has recommended precisely my manner of operation for the correction of the misplacement of the organ now under consideration. As I have been uniformly successful, I thought, probably, that by this communication, I might make some suggestions that may lead physicians to a more easy and successful operation than is usually practiced.—First make a digital examination, to ascertain the condition of the womb; if you find it engorged with a dipping down into the vagina; place the female on her knees, her breast low on the bed, she should bend her back as far forward as possible; which I term sway the back; by this position the weight of the bowels, and the abdominal muscular contractions are taken off, and the operator has every chance of replacing the organ; by introducing the index and middle fingers, and reaching, by pressing his fingers as far into the vagina as possible, the body of the womb lying next to the rectum; then by a firm pressure, carry the womb to its proper place. If the womb has been long out of place, it will take much more force than is generally imagined to effect a restoration; which must be accomplished, let the pain be ever so great; when this is accomplished the female should be directed to fall on her side without rising up, and remain in a horizontal position several hours, or until next morning, as I generally select the usual bed time for the adjustment. I allow my patient to be up and take exercise to invigorate the system, giving directions to avoid lifting, and severe exertion, or any thing that would cause a straining of the abdominal muscles, and for her to lie down frequently and every time on lying down, to place herself on her knees, breast down and back swayed, and while in this position to make a suction or upward drawing of the abdominal muscles; this will bring the womb that would otherwise be disposed to fall as low as first

found, back into its proper place, this position and practice should be especially insisted on every night on retiring.

Frequently one replacement, by following up the practice of position, together with the suction and swaying of the back, and for her, after a few suctions to remain on her knees, in a perfectly relaxed condition of all the muscles, before tumbling down for the night. By this practice the womb will soon accomodate itself in its proper place, and the ligaments and other parts sustaining the womb, will strengthen.

If the symptoms are such after a few days, as to cause the practitioner to suspect that the womb is not right, examine again as before, etc. Generally it is not necessary until after the next catamenia has ceased, then it would be well to re-examine, etc. If, on the first examination, the womb is found retroverted, after placing the woman on her knees, breast down and back swayed; then the doctor will proceed; and unless he has unusually long fingers he will not be able to reach the fundus of the womb by the vagina; then it will be necessary for him to explain to her the necessity for him to introduce the finger, (the index) into the rectum; then by running the finger high up in the bowel, reach to where the fundus of the womb is pressing against the bowel; then by a very firm pressure forward, the bowel going before the finger, the womb is carried in a proper line for adjustment, as before directed; this breaking up or breaking out of its unnatural bed or displacement is extremely painful, and a timid practitioner will desist through sympathy for the sufferer before he accomplishes his object, and leave his patient to drag out a life of suffering, unless she should fortunately fall into bolder hands. The suffering for a few moments should not deter the operator from pushing to the accomplishment of so great and so permanent relief.

It will be readily perceived that I discard all pessaries. I deem them irritants and excitants, and seldom do good, and therefore should be condemned and discarded from this practice.

By my plan, the patient exercises sufficiently for her general health, she is not subjected to so much manipulation, as she is on the other plans. The plan presents itself at once forcibly to the minds of all, as the most natural and easy of accomplishment over all others.

Abdominal or bowel supporters might be necessary for some females to wear, where the bowels press too heavily on the broad ligament or floor of the abdomen in which the womb is suspended. The patient should be directed not to let the bladder become much distended.

All departures from general health should have, medicinally, their appropriate attention.

ART. III.—A CASE OF ECLAMPSIA.

BY J. V. WITHERS, M. D., OF BRANDENBURG, KY.

As the condition mentioned above is very rare, this being the first case I have met with in a practice of more than eight years, I thought I would report the same, not with the view of benefiting any one with what I did on the occasion, but hoping I may make some reflections that will not be entirely devoid of interest, and perhaps profit, if such a case should fall into the hands of some of the younger members of the profession.

The best observed statistics on the subject confirms the fact, that more than one half the mothers and nearly all the children, die of eclampsia, when attacked during labor.

The patient was a negro girl, aged twenty-two years, primipara, stout, athletic, had been subject to convulsions when a child; I saw her at about 1½ o'clock, P. M., July 16th, where I found in attendance an old lady, from whom I learned the following facts. That she was taken with premonitory labor pains about 2 o'clock, A. M., which progressed regularly and naturally, with the exception of at times, an expression by the patient, of impatience, restlessness, and foreboding of evil to happen to her during her confinement. But by diverting her attention she would become lively and talkative. By 10 o'clock, the child had made considerable progress in descent, ready to engage in the inferior strait. Uterine orifice pretty well dilated, she anticipated a speedy termi-

nation of the labor. The pains had not been, and were not now, unusually severe, although she had been for the last hour or two more unmanageable. About this time she was attacked with a convulsion, lasting from one to two minutes, followed by a complete aberration of the mental faculties, not being able to recognise her parents; they returned every thirty or forty minutes with increased force, when I arrived she had had some three or four. The labor pains had nearly or quite ceased, at least they were feeble and quite inefficient, had been so from the first convulsion; when I arrived it was at about the termination of an interval. The expression of the countenance and eyes, was wild and delirious, incoherent talking, pulse full and about ninety beats per minute, skin hot. She seemed acutely sensitive to the touch about the genital organs, so much so, that it was with difficulty I could effect an examination, per vaginam. I found the breech of a child engaging in the inferior strait, with the orifice pretty well dilated. She immediately went off into a convulsion, eyes partly opened, rolled upward and to the right side; upper and lower extremities rigidly extended, frothing at the mouth, uterine walls flaccid with their contents falling to either side the most prone; this lasted about a minute, went off with an irregular twitching of the muscles of the face and extremities, succeeded by a loud mucous *râle*, no disposition to change her position during the convulsion, somnolency greater than when I first arrived, with great difficulty that she can be aroused, pays no attention to surrounding spectators. I immediately opened a vein in the arm and permitted it to run as long as I thought it safe, had cloths wrung out of cold water applied to the scalp, sinapism down the spine, and permitted the fresh air to play on her freely. It was with great difficulty that anything could be administered by the mouth, she did not seem to comprehend the art of swallowing. An hour intervened before another convulsion; I gave her chloroform by inhalation, at its outset, which rendered it light compared with the one before. Before she became so she would to some extent heed what was spoken to her, and expressed a willingness to drink some cold water, which she did. There being an entire absence of uterine contractions, and the uterine orifice being dilatable and not sufficiently dilated to take the child away with the hand, I gave from

ten to twenty drops oil of ergot every fifteen minutes, which, in the course of an hour, produced two pains—which fully engaged the child in the inferior strait and entirely dilated the orifice, the pains then subsided, and never returned again. The convulsions recurring, I subjected her to a second venesection, which resulted in no material benefit, the convulsions still occuring at intervals of an hour. The chloroform would mitigate and cut them short, but not arrest them; my efforts had been to arrest the convulsions. Believing this to be impossible, my forceps having come at 6½ o'clock, I determined on delivering her. I knew this was the last resort, though a hopeless one to me, so far as it concerned saving her life, for as soon as I arrived and saw the character of her convulsions, and the extent to which they had gone, I felt convinced they would prove fatal, and so expressed myself to the family, but a physician should do his whole duty. So I proceeded to apply the forceps—I am aware that the majority of writers on obstetrics, oppose their use in pelvic presentations, yet, believing the child to be dead, I felt that one objection was removed, and the admission of M. CAZEAUX, that M. STOLTZ recommended them, and that M. P. DUBOIS would not hesitate to use them under such circumstances, I felt fully justified, and accordingly succeeded in delivering the child in a few minutes, without the forceps slipping or giving way in the least. On passing my hand into the uterine cavity, I found a second child, above the superior strait, vertex presenting. I introduced the forceps and by 7¼ o'clock, had succeeded in delivering the second and the placenta, and put the woman to bed.

Both the children were dead, and no doubt had been for some time; I ordered frequent doses of calomel, turpentine and castor oil. She could not swallow; the convulsions continued, she became entirely comatose, with stertorous breathing, and at 8½ o'clock died.

Reflections. 1*st.* No doubt but by 8 o'clock, A. M., the premonitory eclamptic symptoms were on her, when she ought to have been subjected to proper treatment, whereas six hours intervened before any was had, and four hours from actual convulsions, which had made such serious inroads on the system, that any treatment would have been unavailing.

2nd. The convulsions were of the gravest character, having proved fatal in ten and a half hours from their invasion, whereas their usual termination is in from twelve to forty-eight hours.

3rd. The entire suspension of uterine contractions in such cases is rarely met with, they continuing throughout.

4th. From the partial good effects manifested from the use of the chloroform, if it could have been used in conjunction with blood-letting at 8 o'clock, or 10 o'clock, A. M., the results might have been different. In this way combining, the sedative, antispasmodic depletory treatment of M. CHAILLY and others, early in the attack, with better prospects of success, and it seems from M. CHAILLY's showing that this form of treatment has been more successful than the purely depletory, only one-fourth proving fatal under the former, and one-half under the latter.

ART. IV.—THE PATHOLOGY AND TREATMENT OF HEMORRHOIDS.

BY T. G. RICHARDSON, M. D., DEMONSTRATOR OF ANATOMY IN THE UNIVERSITY OF LOUISVILLE.

ONE of the most common, and by no means the least troublesome, of the numerous diseases to which the rectum is liable, is that, the title of which stands at the head of this article; and considering its exceeding frequency and its great importance in a practical point of view, it is somewhat remarkable how lightly it is treated of in most of the text-books on general surgery, and how loose and unsatisfactory are the ideas of a majority of even the best practitioners of the country in regard both to its causes and nature, and the treatment required for its relief. It is with the hope of being able to put some of the readers of the Journal in possession of facts which the too slender libraries of many of them

do not furnish, that I take the liberty of presenting them with the results of my observations and study.

General Considerations.—Under the common term *Hemorrhoids* or *Piles*, are included two entirely distinct and separate affections, distinguished ordinarily by the prefixes 'external,' and 'internal,' or 'blind,' and 'bleeding' piles. It is true that they are both bloody tumors, produced by a modification of the same causes, often co-exist, and are situated in adjacent parts of the same organ; but, as will be presently pointed out, they are totally different in their anatomy, in their course and consequences, and in the treatment demanded for their cure. The fact that they are so entirely dissimilar should be distinctly borne in mind, in order to avoid much of that practical confusion that seems to prevail, not only among physicians generally, but even among many distinguished lecturers and writers on surgery. That such confusion does exist one has only to take up and examine all the more familiar American and foreign books in which the subject is treated of, to be fully satisfied. In prosecuting some inquiries lately in regard to diseases of the rectum, I have had occasion to look over quite a number of publications of this sort, besides others of a more special character, and I must confess that, with one exception, I have found no clear and satisfactory recognition of the great distinction that it is so absolutely necessary to make between these diseases. The exception is GROSS's Pathological Anatomy, wherein the celebrated author draws particular attention to the point in question, and leaves little or nothing to be desired in the way of an accurate and well-defined description of, and discrimination between, the morbid anatomy of the two. The great majority of other writers acknowledge that there is a difference, but do not tell us precisely what it is, or at least fail to impress it upon the reader in such a manner as to make him feel its importance either in a pathological or a practical point of view. Others again (but fortunately very few), and among them the world-renowned ABERNETHY, deny that there is any difference in structure, and consequently make none in practice.

In the following imperfect outline of the two affections, I have attempted to arrange their several characters in a sort of parallel light, so that their distinguishing marks may be more prominently

brought into view than could have been done by giving a separate and continuous description of each.

1. *Diagnosis.—External Piles* are exceedingly common, occur for the most part about the middle period of life, although occasionally observed in young children,* are of exceeding frequency in females during parturition and the latter months of pregnancy, and prevail probably to a greater extent in Southern than in Northern latitudes. They are situated at the *verge of the anus*, just where the skin of the nates and mucous membrane of the rectum become blended together, where they form tolerably firm, elastic, prominent, well-defined tumors of a brownish-red or purplish hue. They are generally multiple, often numbering as many as five or six, although frequently single, especially when large, and vary in size, from that of a medium shot to that of a large filbert. They are usually produced suddenly during parturition or violent straining at stool, and are generally attended, for a few days, with more or less pain, often of an acute character, and an annoying feeling as though a large foreign body were lodged between the nates. They are rarely if ever the seat of hemorrhage amounting to more than a few drachms, and only so when accidentally opened by rupture or ulceration.

Internal, or bleeding Piles are far less frequent than the external variety, seldom if ever occur as an uncomplicated affection before the age of twenty or twenty-five, and are, in this country, according to my own observations and inquiries, much more common among men than women. This last statement is, I am aware, at variance with the published authorities generally upon the subject, but not, as will be hereafter shown, with the nature of the causes producing the complaint. The only author to whom I can refer at this moment as having observed the same fact, is M. VIDAL, who states in his "*Pathologie Externe*" that it is remarkable how few females, excepting those who have frequently borne children, are found to labor under tumors of this sort.

Internal Hemorrhoids are situated a short distance within the rectum, immediately above the internal sphincter muscle, and may be felt by the introduction of the finger as smooth, spongy, undefined swellings occupying the space of an inch or two in an upward direction, and often the whole circumference of the bowel. When

* Gross's Pathological Anatomy.

made to "come down" below the sphincter, as they nearly always are by violent efforts at evacuation, and as they always should be, if possible, when an examination is desired, they become erect and turgid with blood, and being partially strangulated by the contraction of the muscle just mentioned, present themselves externally in the form of large rounded tumors, of an intensely brownish-red or livid color, continuous with each other at their bases, and often so crowded together as to have the appearance of one large irregular mass, not unlike, and often mistaken for, prolapsus of the rectum. They are of comparatively slow growth, and generally multiple, the number varying from two or three to six or eight, although, as just intimated, it is frequently almost impossible to discover their separating lines. When thus protruded they are usually the seat of a good deal of bearing-down pain, sometimes sufficient to produce fainting; and under these circumstanstances they are also exceedingly liable to hemorrhage from rough handling or simply from over-distension of the vessels. The amount of bleeding varies from a few drops to several ounces, and being habitual in many persons, frequently brings on, and keeps up a state of general anemia, by which the constitution is gradually, but surely undermined, and the life of the individual placed in imminent jeopardy.

In suspected cases where there is no protrusion, the existence of the disease is best ascertained by the use of a rectal speculum, consisting of a solid glass or metallic cylinder, with an oblong opening upon one side near the distal extremity.

Pathological Anatomy.—External Piles are formed by the rupture of one or more of the small veins that ramify about the verge of the anus. They consist, therefore, simply of a clot of blood occupying a corresponding cavity which it forms for itself in the loose areolar tissue of the part, and are covered on the lower side by the skin, and on the upper by the mucous membrane of the rectum. That this is the whole anatomy of tumors of this variety soon after their formation, I have fully satisfied myself by frequent dissection, thus verifying the observations of Prof. GROSS upon the same point.

Internal Piles belong to the class of erectile tumors, and consist essentially of masses of irregularly dilated, tortuous, and convoluted capillaries, mostly venous, occupying the submucous areo-

lar tissue of the lower part of the rectum. They are in fact nearly similar, in every respect, except in the mode of their production, to *nevus* or aneurism by anastomosis, and are hence sometimes called varicose hemorrhoids. Like nevi, they are, when in a state of rest, soft, flaccid, and spongy to the touch, but in consequence of pressure on their venous trunks in violent straining, become swollen and tense, are generally forced out beyond the sphincter, and as before remarked, if cut or scratched, or even roughly handled while in this state of turgescence or erection, bleed, sometimes so profusely as to produce syncope, and occasionally endanger the life of the individual. In most cases the mucous membrane covering the congeries of vessels is thin and delicate, but in consequence of frequent protrusion and handling it may take on a condition of chronic inflammation producing thickening and induration of its structure, and the discharge of a large quantity of stringy mucus mixed with more or less pus and blood.

2. *Course and Consequences.—External Hemorrhoids* give rise, when first formed, to more or less inflammation attended with a good deal of local distress, and occasionally a little sympathetic fever. In a few rare instances the inflammation proceeds to suppuration and the formation of abscess, which, upon being opened, is followed by a discharge of the coagulated blood along with the matter, and thus produces a spontaneous cure. Ordinarily, however, the inflammatory action subsides in a day or two, and the tumors, if let alone, undergo in the course of time a very gradual but material change in their structure. This change consists in the absorption of the watery and coloring matters of the effused blood, and the organization of its fibrin, by which means the tumors are very much diminished in size, lose their reddish or livid color, and their acute sensibility, and remain as permanent appendages to the margin of the anus, in the form of little pendulous excrescences of a pale appearance and flabby consistence. It is not uncommon to find a row of these appendages encircling the anal orifice, where they may give rise to no inconsiderable annoyance by friction against each other and between the nates in walking, especially in hot weather. Sometimes in consequence of this chafing, and the want of cleanliness, they become the seat of a most painful ulceration upon their inner or mucous surfaces, and

are said also to occasionally degenerate into malignant disease; but of this latter I have never witnessed an instance.

Internal Hemorrhoids occasionally, but very rarely, undergo a spontaneous cure. This may take place in one or two ways: 1st. From negligence or some other cause the tumors are not returned as soon as they should be, after defecation; inflammation is set up, the sphincter muscle becomes spasmodically contracted, and the protruded parts fall into a state of mortification in consequence of the strangulation. In this manner the whole of the diseased mass may slough off, and if the patient's constitution is able to bear up against this new malady he will be permanently cured of the old. Two cases of this sort are reported by Mr. HOWSHIP, and one came to my own knowledge in an adjacent state not many weeks ago. In the second place, inflammation may, from some cause or other, be lighted up in the diseased part, attended with coagulation of the blood, and effusion of lymph, by which means the vessels are obliterated, and in the course of time the coagulated blood and effused lymph becoming absorbed, the tumors will be found to have entirely disappeared.

Most frequently, however, the disease after having become quite bad, either remains stationary for sometime, or progresses steadily from bad to worse, the tumors often attaining almost the size of a man's fist. Under these circumstances the suffering that they give rise to is very great. One individual with whom I am acquainted, and who has pertinaciously declined all surgical interference, is obliged to provide himself regularly every morning when he goes to stool, with towels, soft cloths, &c., for the purpose of cleanliness, and having emptied his bowels and washed the parts in cold water, has to get upon his knees and one hand, while with the other he gradually effects reduction; and such is the sense of fatigue and exhaustion after the operation is over, that he has invariably to lie down for an hour or two before he recovers from its effects.

But the most serious consequence attending the disease, is the general anemia resulting from the frequent losses of blood. I cannot better describe this condition than by making use of the language of Mr. SYME.* "The patient loses flesh and acquires

* Diseases of the Rectum.

a remarkable paleness of complexion which is afterwards exchanged for a peculiar dingy-yellow hue like that of imperfectly bleached wax. The lips no longer possess their vermillion color, but resemble those of a dead body; the tongue, too, has a blanched appearance very characteristic of the state induced by excessive or continued depletion. These symptoms are attended with great listlessness or want of energy, both of body and mind, disturbed sleep, irritability of temper, quick pulse and head-ache, which is generally increased by rising up more than by lying down. Palpitation and pain in the region of the heart, and difficulty of breathing, are also frequently induced by slight exertion or agitation of any kind." And what is remarkable, these symptoms sometimes exist without the patient's knowledge of their true cause. A case of this kind came under my observation a few years ago in which the individual ascribed his symptoms to disorder of his stomach. Although he had often noticed that his fœces were streaked with blood, and that blood appeared upon the paper with which he wiped himself, he was not aware that he was laboring under hemorrhoids, the tumors having never, to his knowledge, protruded at the anus. Indeed, I may remark, that he had been treated for dyspepsia, and would in all probability have died under this impression had he not fallen into other hands, and been relieved of the real source of his difficulty. Mr. SYME also mentions a case of the same kind, in which "the patient was supposed to labor under disease of the heart, and whose waxy look, bloodless lips, and defective energy, together with irregular action of the heart, certainly afforded considerable ground for this opinion, but Dr. ALEXANDER discovered that there was an internal hemorrhoid which bled profusely every time the patient went to stool, and I removed it with the effect of quickly restoring him to health.*

3. *Causes.*—The causes of hemorrhoids are predisposing and exciting, of which the former are of more importance in the production of the internal, and the latter of the external variety. The *predisposing causes* are a relaxed phlegmatic temperament, luxurious living, indolent habits, disease of the liver or lungs, and an occupation requiring long standing. Of these I am inclined to think that the last mentioned is the most powerful, and it is, of course,

* Op. Cit.

doubly so when combined with one or more of the others. Space will not permit me to enter into an account of the manner in which these causes predispose to the occurrence of piles, but suffice it to say that they are not unfrequently the only assignable causes of the internal variety, but not of the external. The *exciting causes* of *external piles* consist exclusively of such things as interpose a sudden interruption to the return of the venous blood from the hemorrhoidal veins, as, for instance, violent efforts in evacuating the bowels or bladder, parturition, lifting heavy weighs, &c. Their mode of action is very easily understood. The veins of the lower part of the rectum and verge of the anus are very numerous and tortuous, and communicate on the one hand with the portal circle through the superior hemorrhoidal vein, which terminates in the inferior nusenteric, and on the other with the general venous system by a much smaller trunk, called the middle hemorrhoidal, which opens into the internal iliac. Now it is a fact known to almost every one, that in the contraction of the abdominal muscles the diagonal of all the forces is in the direction of the bottom of the pelvis, so that the contents of the abdomen are made to press forcibly upon those of the pelvis, and consequently upon these two venous trunks, but more especially the larger one. If this pressure occur in an individual in whom, from predisposition or habit, the abdominal veins are in a state of unnatural fullness from want of tonicity, excessive alimentation or what not, one of two things occurs; either the hemorrhoidal veins simply dilate, or else one or more of them give way. In the latter case an effusion of blood takes place constituting external hemorrhoids.

The exciting causes of *internal hemorrhoids* may be the same as those concerned in the production of the preceding variety, with some modification in their mode of action. Thus, as just stated, external piles result suddenly from over distension of the veins of the rectum, but for the production of the internal form it is necessary that this interruption should often recur before the venous radicles can be brought into a permanently dilated or varicose state. Where the interruption is habitual and occasionally very great, both forms of the disease are apt to be the result.

But there is another set of causes upon which some authors

place no little stress, and which are no doubt very active. They consist of local irritations of any kind whatever, by which an unnatural amount of blood is determined to the rectum. The most common causes of this kind are the presence of foreign bodies and ascarides, riding upon horseback, the habitual use of drastic purgatives, more particularly aloes, other diseases of the rectum, such as chronic dysentery, ulceration, &c., and lastly diseases of adjacent parts, as, for instance, of the uterus and the other genito-urinary organs. It is very easy to understand how such causes might induce the disease in a person already predisposed, and even when there is no very great predisposition, if the irritation have the effect of producing frequent and violent efforts at expulsion. In the latter case, however, the irritation would be properly considered as a predisposing, and the straining the immediate or exciting cause.

4. *Treatment.*—The treatment of hemorrhoids is pallative, radical and preventive; but as it differs very materially in the two varieties, a separate description becomes necessary.

External Hemorrhoids.—The *palliative treatment* of external hemorrhoids is called for only when a high degree of inflammatory action attends the disease, or when from fear of the knife, an unwillingness to undergo the necessary exposure, or from some other cause the patient refuses to submit to the radical treatment. It consists simply in the administration of a little cathartic medicine and the local application of cold water for a day or two, followed by some anodyne ointment to allay irritation and prevent friction in walking. A favorite prescription of many practitioners, and one that has been successively transmitted as a sort of professional heir-loom from one physician to another for several generations, is the comp. ointment of nut-galls, composed of equal parts of powdered galls, opium, and lard or simple cerate. The probability is that the great virtue that has been ascribed to this unguent resides more in the lard, which prevents chafing, than in either of the other ingredients. If the inflammation be very considerable, threatening suppuration, the case has to be treated upon the ordinary antiphlogistic plan.

The *radical treatment* is so simple, so satisfactory, and so universally applicable that it should be almost always insisted upon. It consists either in excision or incision. *Excision* is more par-

ticularly applicable to cases of long standing, in which the tumors are converted into fleshy appendages. It is performed by taking hold of the part with the fingers or a pair of forceps, and snipping it off at the base, with a pair of blunt-pointed scissors. The operation is attended with intense but momentary pain, but rarely with hemorrhage. *Incision* is the proper operation in all recent cases. It is performed by plunging a sharp-pointed bistoury or an ordinary thumb-lancet into the interior of the tumor and cutting freely from within outward; or it may be just as easily performed with a common scalpel, cutting from without inward. After the incision is made, gentle pressure on each side will cause the clot of blood to roll out, generally in the form of a rounded shot or bullit-like mass. The only subsequent measures that are necessary are daily ablution in cold water, the application of simple cerate or lard to prevent undue chafing and the institution of the preventive treatment. I have never witnessed any hemorrhage after the operation beyond a few drachms, and indeed, generally only to the extent of a few drops; if, however, such an accident should occur, it could be easily remedied by the application of pressure or touching the part with a heated probe.

The *preventive treatment* of external piles consists, of course, in the avoidance of all predisposing and exciting causes, more especially the latter, of which a constipated condition of the bowels is one of the most important. To remedy this the patient should be directed to take a sufficient amount of out-door exercise every day; live principally upon gruel, molasses, stale bread, crackers, soup, and such other substances as are known to favor a liquid condition of the fœces; and, if necessary, the frequent and sometimes daily use of mild laxatives, such as sulphur-water, seidlitz powders, citrate of magnesia, extract of black-walnut, &c.

Internal Hemorrhoids.—The treatment of internal piles may also be divided into palliative, radical, and preventive.

1. The *palliative treatment* is applicable to a comparatively small number of cases, the majority admitting of radical cure. Where, however, there is serious disease of the liver or lungs, where the patient is very old and has been laboring under the disease a long time without any apparently bad effect upon the constitution, and in cases occurring in the latter months of preg-

nancy, palliation is all that should be attempted. The indications are to relieve, as much as possible, the pain attendant upon defecation, prevent farther increase of the disease, and restrain hemorrhage, all of which may be fulfilled by the following means: 1st. an abandonment of all predisposing and exciting causes; 2nd. the use of certain measures to keep the contents of the larger bowels in a liquid or semi-liquid state; 3d. attention to the mode of defecation; 4th. the local application of astringents.

It is hardly necessary to insist upon the first of these means, the removal of all premisposing and excitiog causes. If the patient's occupation be one that requires long standing it should be changed for a more active mode of life; if the constitution be relaxed and debilitated, tonics, a well selected but liberal diet, out-door exercise, &c., will be called for; if the individual has been accustomed to an idle luxurious life, with intemperance in eating and drinking, this must be abandoned, &c., &c.

Attention to the state of the bowels is of very great importance, and the means pointed out in connexion with the preventive treatment of external piles should always be put in practice.

The manner of emptying the bowels requires particular notice. One of the most powerful causes tending to keep up and increase either one of the varieties of hemorrhoidal disease, but more especially the internal, is the habit of stooping down at stool. This is probably oftener the case in the country, where the use of water-closets is so frequently dispensed with by men, but is also true in a less degree even when apartments of this sort are resorted to, owing to an ill-construction of the seat. It is a fact well known, to professional men at least, that the less the body is doubled up in the act of defecation the less the straining or expulsive effort, and consequently the less apt there is of protrusion of hemorrhoidal tumors, if these exist. This is a very important consideration, for the oftener and greater the protrusion the greater the liability to an increase of the disease, and the more exposed the individual is to hemorrhage and pain. The patient should therefore be made to pass his fœces either in the recumbent, or as nearly the erect posture as possible. The latter is more convenient, and less disagreeable to one's sense of decency, and may be accomplished by having a privy constructed with the seat high, say nearly upon a

level with the buttocks, and inclining from behind downward and forward, at an angle of about forty-five degrees. Indeed it would be a good precaution for all persons predisposed to this disease to make use of a privy constructed upon this plan. It is a matter too little thought of, but not the less important on that account.

The fourth consideration is the local use of astringents. These are most conveniently employed in the form of washes, in which the parts may be bathed after defecation, or which may be injected into the bowels once or twice a day. For the former purpose the individual should provide himself with a basin of cold water every time he goes to stool, and, when the act of defecation is finished, bathe the parts by sitting over the basin and dashing the water upon them, and then carefully return them. If something more astringent is required, a little alum, or tannin, or sulphate of zinc may be dissolved in the water, or a decoction of oak-bark used in its stead. In cases where the tumors do not protrude, the bowel should be washed out by one or other of these substances after every operation. Occasionally great good is accomplished, and it is said that cases have been cured, by injecting into the rectum at night just before going to bed a small quantity of some powerful astringent, and allowing it to remain in contact with the parts as long as the patient can retain it. For this purpose nothing is better than a strong solution of tannin, or alum, or a dilute solution of muriated tincture of iron.

Medicines given by the mouth are sometimes employed in the treatment of internal piles. Of these the compound confection of pepper, commonly called *Ward's paste*, has obtained a very extensive reputation. SIR. B. BRODIE, than whom there is probably no better authority in surgery now living, thus speaks of it. "There is a medicine that is very often useful in cases where simple expedients fail, namely, the *confectio-piperis composita*, which is similar to what was once very celebrated as Ward's paste. It is like eating coarse ginger-bread; it may be a little disagreeable to be taken, but still it may be taken easily enough; and the patient must persevere in its use for a considerable time. Very severe cases of piles are sometimes cured by it. A lady came to me with one of the worst cases of this disease that I ever saw; the piles were so large, and protruded so constantly, that I did not think

there was any chance of curing her, except by the operation hereafter to be described, and I advised her to submit to it. She said the piles made her miserable, and she should be very glad to be cured on any terms, but she was compelled to pay a visit in the country which would render it necessary to delay it for a month. I thought the delay for a month could not hurt her, and under these circumstances I recommended her to give Ward's paste a trial, and see what it would do for her. I heard nothing more of her for six or eight weeks, when she came back, and said she was happy to inform me that she had taken the paste regularly and was now quite well. * * * * How does the Ward's paste operate? It is evident that except any small portion which may be digested it passes into the colon and must become blended with the fœces; and I suspect that thus coming in contact with the piles, it acts upon them as a local application, much as *vinum opii* would act upon the vessels of the conjunctiva in chronic opthalmia." Mr. BRODIE also mentions a case of SIR. E. HOME'S, in which the paste was, by mistake, introduced in large quantity into the rectum with the effect of curing the patient.

When internal piles, from any cause whatever, become inflamed and swollen, the treatment for the time being is necessarily directed to subduing the excited action. This accident generally occurs when the tumors are protruded, and the first thing to be done in a case of this kind is to attempt to return them, which is done by first gently pressing the blood out of them and then pushing them up. Subsequently the application of leeches around the anus and the injection of cold water is in general all that is necessary. If however, the efforts to reduce them prove unavailing the only thing that can be done is to puncture them with a sharp-pointed bistoury, and apply cloths wrung out of warm water, and then make another attempt to return them; if still unsuccessful the probability is that mortification will take place, which should be treated in the same manner as mortification in any other part of the body. As heretofore stated, if the patient's constitution is able to sustain this morbid action a cure of the original disease is the result.

2. *Radical Treatment.*—For the radical cure of internal or varicose piles, one of two things is necessary; either the tumors

must be removed by an operation, or obliterated by the coagulation of their contents and the effusion of lymph. Removal may be effected by the application of caustics, by excision, or by the ligature; coagulation and adhesive inflammation, by the seton, acupuncturation with hot needles, or injection of irritating fluids.

Caustics.—The old practice of destroying hemorrhoidal tumors by the actual cautery, vienna paste, or caustic potash, is pursued by very few intelligent surgeons of the present day, and should indeed be looked upon as an almost obsolete procedure. Indeed, the only distinguished exception that I know of, is the present Baron BOYER, of Paris, who is in the constant habit of using the hot iron in the treatment of this disease. A modification of the caustic plan, however, has been put in practice by Mr. HOUSTON of Dublin, and occasionally also employed by other surgeons with sufficient success to warrant its adoption in cases in which, for some cause or other, the ligature is contra-indicated. It consists in the repeated application of strong nitric acid to one or more of the tumors at a time, for the purpose, not so much of producing a slough, as of exciting a moderate degree of inflammation and consequent coagulation of the contained blood and effusion of lymph. It belongs therefore more properly to the second class of remedies mentioned above. The acid should not be applied to more than two or three of the tumors at once, and not over their whole surface, but only to the extent of about a five-cent piece, and should be immediately followed by a free inunction of the parts with sweet oil or lard, to prevent its contact with the surrounding structures. The application has generally to be repeated from three to five times, with an interval of five or six days between each, and requires no little caution in its management. I have had no experience with it myself, but Prof. GROSS informs me that he has employed it once and with the most satisfactory result.

Excision.—At the present day excision of internal hemorrhoidal tumors is practised nearly exclusively by the French surgeons, the operation having been almost entirely abandoned in Great Britain and this country. And considering the seat and nature of the disease, it seems to me exceedingly strange how any intelligent and honest surgeon can conscientiously advise a patient to submit to so hazardous a procedure—except in a few rare cases—

when other and less dangerous means have proved so much more successful. The great danger, as the reader will of course understand, is hemorrhage; but to what extent this accident has proved fatal it is impossible to ascertain, as surgeons generally, and more particularly those of France, where, as just stated, this operation has been most extensively employed, are not in the habit of making public their unsuccessful cases of any kind; a fact that cannot be too much regretted in view of the great benefit that such reports would undoubtedly confer upon the profession. That fatal effects however, from this cause have frequently followed the operation, we have some of the best authority for believing. Thus honest old BOYER in his immortal work entitled "*Traité des Maladies Chirurgicales*," states that instances of this kind have been frequently reported. His son. Baron PHILIP BOYER, admits the loss, from this cause, of one patient out of sixteen upon whom he performed the operation, also one from tetanus, and three others who, to use his own language, "*succombérent à l'adynamie qu'avaient préparée les pertes abondantes de sang*,"—in all, five cases out of sixteen. J. L. PETIT tells of a young surgeon who imprudently extirpated some hemorrhoidal tumors, which he supposed to be external but which proved to be internal. Frightened by the violent hemorrhage he plugged the rectum with charpie, and no blood being thus allowed to escape externally, he thought he had arrested it; but the patient died and PETIT found the rectum and nearly the whole of the colon full of semi-fluid venous blood. Sir ASTLEY COOPER says, that in the early part of his career he was a strong advocate for excision, but was ultimately induced to abandon it from having met with three fatal cases, two of the three resulting from hemorrhage, and the other from peritoneal inflammation. And it is worthy of remark that in each of the cases that died from hemorrhage, but a single tumor was cut off. Sir BENJAMIN BRODIE, although not as unfortunate as to lose any of his patients, records his entire experience in this operation as follows: "In the first one or two cases I found no inconvenience to arise from my altered practice (referring to his adoption of excision for the ligature); but then a case occurred in which the patient lost a great deal of blood; in another case the hemorrhage was so great that the patient nearly died; and then a third case occurred, in which also the patient lost an

enormous quantity of blood—so much, that I now only wonder that he did not actually die." DUPUYTREN records several cases occurring in his own practice in which the hemorrhage was very alarming, but, Frenchman-like, he was not to be deterred by a little accident of this sort from continuing his favorite practice, only he took the precaution ever afterwards, when he thought there was any danger, of touching the cut surface with the actual cautery.

Looking therefore at the situation and morbid anatomy of internal hemorrhoids and at the frequent, alarming and often fatal effects of extirpation by excision, it is my honest opinion that the operation ought to be almost entirely discarded from surgery. Occasional cases occur, it is true, in which it may be very safely employed; cases, for instance, in which the tumors have become solid from coagulation of tneir contents or adhesive inflammation; but even here I think it preferable to let nature accomplish the work by gradual absorption, promoting this process by the local application of stimulants or the introduction of the rectal bougie.

Ligature.—The employment of the ligature for the radical cure of internal piles dates back as far as the time of the great father of medicine, the immortal HIPPOCRATES, and it is at this day, *par excellence, the* operation. It is just as effectual as excision, and has the great advantage over the latter in being entirely free from the danger of hemorrhage. The great disadvantage that attaches to it is the acute pain by which it is often attended and followed, while, in respect to other accidents, more particularly peritoneal inflammation, there is probably little or no difference between it and excision.

Before proceeding to describe the mode of performing the operation, it is necessary to state the principal circumstances under which it should not be resorted to. 1st. It should not be employed in patients debilitated and broken down in constitution by old age, unless life be seriously threatened by profuse hemorrhage. 2nd. In persons laboring under organic disease of the lungs, heart, or liver. 3rd. In womem during gestation or immediately after parturition. 4th. In cases where there is no protrusion and no serious hemorrhage, until the simpler means stated under the hrad of palliative treatment have been fairly tried. 5th. In periodic cases of

vicarious of the catamenial discharge until this latter function has been re-established. 6th. In cases where the tumors are in a state of inflammatory engorgement; and lastly in no case where the system has not been properly and carefully prepared.

The last mentioned point is one to which I desire to call particular attention. No patient laboring under this disease, no matter how healthy he may be in every other respect, should be subjected either to excision or ligature without more or less preliminary treatment. The kind of treatment and the length of time required will, of course, vary in different cases. If the individual be of a plethoric habit of body, accustomed to a full, luxurious diet, and of an active, energetic temperament; a restricted diet, occasional purgation, and partial confinement to the house for ten days or two weeks, will generally accomplish all that is required. If, however, the patient, as is generally the case, be of a relaxed, phlegmatic temperament, debilitated and broken down either by intemperance, dyspepsia, frequent losses of blood, or any other complaint of long standing, a resort to ferruginous tonics, a liberal, well selected allowance of food, gentle out-door exercise, &c., will become necessary, and should be continued until a tolerably healthy tone of action is established, even if it should require several weeks or months. But should there be daily loss of a considerable quantity of blood, which cannot be restrained by local astringents until the requisite state of system is produced, the operation may have to be performed at all hazards. But as a general thing the practitioner should make it an inviolable rule always to institute a systematic course of preparation before undertaking the radical cure by either of the methods stated.

The preliminary treatment having been continued as long as may be judged necessary, the night before the day proposed for the operation, the patient should be required to take a dose of cathartic medicine, as for instance, the common compound calomel pill, followed early the next morning by half a pint of citrate of magnesia, or a table-spoonfull of epsom salts. After the medicine has produced three or four tolerably copious stools he should take three-quarters of a grain or a grain of morphia, to be repeated in the course of an hour or two if necessary, to put the bowels completely at rest. When this is accomplished he is ready for the operation.

Operation.—The surgeon having provided himself with four or five stout silk ligatures, which should be well waxed to prevent slipping, a tenaculum, a pair of scissors, and a competent assistant, requests the patient to make violent expulsive efforts over a vessel of warm water, in order to protrude the parts as far as possible. When this is done he places him upon the floor upon his knees and elbows, inserts the tenaculum through the largest of the tumors as near the sphincter as may be, and makes gentle traction upon the instrument to steady and draw the tumor out as much as possible without lacerating it; he then commits the tenaculum to the charge of the assistant, encircles the tumor with the ligature beyond the convexity of the instrument, and ties a firm unyielding knot. In this last mentioned procedure some care is required, lest the ligature be drawn so tightly as to divide the tissues; the object is not to cut the tumor off but to strangulate it, and for this purpose, although the thread has to be drawn very firmly, the surgeon should be on his guard not to go beyond the mark. The ligature having been tied, one or both ends may be cut off within a short distance of the knot, although I think it preferable that one should be left hanging out at the anus.

The number of tumors to be tied will vary in different cases although as a general rule three or four will suffice. There is no necessity for tying all of them; usually about two-thirds or three-fourths of the whole number are enough; the remainder will become obliterated by the effusion of lymph consequent upon the inflammatory action, which necessarily follows the operation.

After all the ligatures have been tied, and one end of each cut off, the parts should be returned very gently, and the patient put to bed. If much pain is complained of, another grain of morphia will be required, together with the local application of cloths wrung out of cold water, or, what is often more agreeable to the patient's feelings, a bottle of hot water placed between the thighs and pressed up in contact with the anus. As a common rule it is advisable to administer a full opiate immediately after the operation whether there be much pain or not, and to continue its use in sufficient quantities to keep up a state of slight narcotism for three or four days; it insures perfect quietude of the bowels—a point very much to be desired—controls inflammatory action, and is

the safest possible guaranty against the occurrence of peritonitis. The bowels should on no account be allowed to act under four or five days at least, to prevent which, in addition to using the morphia or other preparation of opium, the patient should be subjected to a rigorous diet, consisting only of a little mush and milk, chicken broth, crackers, or other bland, unirritating articles. At the end of this time a saline cathartic may be given, aided by large injections of warm water, and after free evacuation the morphia should be again resorted to for three or four days, and again a gentle cathartic. At the end of a week or ten days, if everything is favorable, the opiate may be suspended, the bowels kept gently open by the use of sulphur water, citrate of magnesia, or some other mild laxative, and the patient allowed to sit up from time to time throughout the day.

Most of the ligatures accompanied by more or less clotted blood, the debris of the strangulated tumors, and a considerable quantity of stringy mucus, are usually discharged with the first evacuation of fœcal matter, if this has been delayed for six or eight days. If any should remain longer than this time, gentle traction may be made daily upon the ends hanging from the anus, but not sufficient to endanger laceration or to produce pain; this will promote their detachment and they will generally be discharged a day or two thereafter. Another circumstance which occurs at this first and often at several subsequent evacuations of the bowels and well deserves to be mentioned, is the re protrusion of the parts in apparently as bad a condition as ever. This very naturally alarms the patient, and may lead the inexperienced surgeon to suppose that the operation has been entirely unsuccessful; but it need not, for it results simply from the congested and œdematous condition of the parts resulting from the inflammation, and will gradually disappear in the course of ten days or two weeks. During this period, the patient is also liable to suffer from more or less strangury which should be alleviated as much as possible by cloths wrung out of warm water applied over the hypogastrium, the free use of diluent drinks, or mild unirritating diuretics, aided if necessary, by an occasional injection of starch and laudanum, or a suppository of opium. If violent tenesmus, accompanied by constitutional irritation, should occur in spite of the internal use

of morphia, it may become necessary to apply six or eight leeches around the anus, or even to take blood from the arm; but very generally an injection of cold water to wash out the lower bowel, followed by the laudanum and starch above directed, is all that is required.

When the tumors are very large, it has been advised to make use of a large curved needle armed with a double ligature, and carried through the base of the tumor, so that the two threads may be tied on opposite sides, each encircling only one half of the swelling; but this, I imagine, is rarely necessary. Under these circumstances a part only of the tumor need be ligated, following the plan already described, for the unembraced portion is almost sure to be obliterated by the subsequent inflammation.

Almost the only, and certainly the greatest, danger to be apprehended from the application of the ligature to internal hemorrhoids, is peritoneal inflammation. This, however, is comparatively a rare occurrence, especially if the patient's system has been properly prepared for the operation, and opium or morphia freely employed as heretofore advised. If this accident should happen, it should be treated upon the general principles, which are familiar to all practitioners. The great remedy, however, in my opinion, is opium or some of its preparations, given to the effect of partial narcotism, and kept up for several successive days.

In regard to the other modes, namely, the seton, introduction of hot needles, &c., proposed for the radical cure of internal hemorrhoids, I know nothing, nor do I believe that they have ever been put in practice. I mention them simply because they are applicable to varicose tumors occurring in other parts of the body, and might properly be employed here in very bad cases in which the surgeon wished to make use of milder means before resorting to the ligature.

The *preventive treatment* of internal hemorrhoids is demanded in persons who, from constitution or occupation, are predisposed to the disease, and in all cases after a cure has been effected. It is a well known fact that the disease is very apt to recur in persons who do not take the necessary precaution, and to all who have been so fortunate as to be relieved, this is especially necessary. The means to be made use of are those pointed out under

the head of *palliative treatment.* The most important of these is a removal from all predisposing causes, a constant attention to the state of the bowels, and the use of a properly constructed water-closet.

Louisville, July 31, 1854.

Bibliographical Notices.

Art. V.—*Pneumonia: its supposed connection, Pathological and Etiological, with Autumnal Fevers; including an Inquiry into the Existence and Morbid Agency of Malaria.* By R. La Roche, M. D., Member of the American Philosophical Society; of the American Medical Association, &c., &c. Philadelphia: Blanchard & Lea; 1854.

This is a work of great research and great learning. Its author is a man of sound judgment, deep erudition, and cultivated taste; at once an observer and a thinker; with patience to collect facts, and a talent for philosophical classification and deduction. We have been waiting, up to this time, for leisure and space to notice it in a manner worthy of its high merits, and propose now to devote a considerable portion of our present number to an analysis of its contents.

Dr. La Roche disclaims, at the outset, any pretensions to originality in the views set forth in this volume. He claims, not to offer anything new, but to have "collected, within a comparatively small compass, the main facts bearing on the question at

issue." We agree with him, that much discredit has been brought upon the profession, and not a little injury done to the science, of medicine, by a straining after novelty, and by unfounded claims to originality. With teachers of a certain stamp it has been much the custom—more in former times, we think, than now—to set up on all occasions to be the expounders of new doctrines. They were "nothing if not *original*." Their lectures consisted of expositions of their peculiar views of medicine and medical philosophy. To present the science as others held and taught it, was unworthy of their genius; they aspired to be innovators—the founders of new systems. "On this subject," says Dr. LA ROCHE, "my mind has long been made up; and from all I have seen, I can entertain no doubt, that more good is to be effected by a patient accumulation and comparison of important facts, and by endeavoring to draw from the whole correct philosophical deductions, than by adopting a different course, too common among the professional writers of this country and elsewhere; who discarding the results of the experience of former and present times, and relying exclusively on their own, too often scanty, observations, make up for their other deficiencies by an indulgence in theoretical explanations; and sneer at the patient, slow, and cautious observer, and the erudite student."

To the latter unambitious class the author of the work before us is content to belong. What he has attempted in this volume is, to prove that the idea of the identity of pneumonia and autumnal fever "is founded on insufficient and incorrect data, and is, in fact, little more than a dream of the imagination;" and, at the same time, to demonstrate that there is good ground for the general belief in the existence of aerial poisons as the cause of autumnal fevers.

He begins by showing, that the belief in the connection of pneumonia with autumnal fevers has long been entertained, affording the modern advocates of the doctrine an opportunity to see "that they are treading on ground already and frequently traveled over and as frequently abandoned." LANCISCI, SYDENHAM, CLEGHORN, RUSH, MORTON, SAUVAGES, ALIBERT, BAILLY, and many other writers of note, would seem to have believed in this relation of these diseases, and they rested the opinion mainly on the fact that the

two complaints "prevail simultaneously in the same localities, or succeed each other; and that while pulmonary inflammation often occurs in summer and autumn, when fevers are rife, so the latter appear also in winter and spring, when the former usually prevails extensively."

Having stated what is held by the modern advocates of this old doctrine, he proceeds thus to present his own views on the subject:

"I have no hesitation in stating, as the result of my personal observations aided by extensive inquiry and close reflection, that pneumonia is not *sometimes* but *always* an idiopathic disease, whether it occurs sporadically or epidemically; whether in the South, in the North, in the East, or in the West; whether in fever districts, or in fever seasons, or in places or at periods of the year free from periodical fevers; and that it is due to causes perfectly distinct from those to which such fevers owe their origin. I believe this; and believe, besides, that even were pneumonia produced at times by the legitimate causes of fevers, such cases would not be any more symptomatic than those that are due to the ordinary causes of the disease; for these do not act directly and primarily on the lungs any more than the others would do, supposing them capable of giving rise to the effect in question. And as in either circumstance the primary impression is received by some other part of the system, and thence reflected on the pulmonary organs, the two sorts of cases must be placed on the same footing, and be all primary or all secondary. Of course we must exclude from the cases thus referred to, those produced by traumatic or mechanical injuries, and agencies acting directly on the lungs, for these might, strictly speaking, be called symptomatic. It may, perhaps, also be proper to exclude some of those in which symptoms of pneumonia show themselves during the progress of other diseases, or after extensive surgical operations or wounds. I say in some, for while in these the inflammation of the lungs is secondary, and merely the effect of sympathetic irritations, which may and do arise in a variety of dissimilar complaints, and are somewhat influenced by the nature of the cause giving rise to them; in others, the pneumonia may properly be called idiopathic, inasmuch as it is independent for its causation of the agency giving rise to the prior complaint, being produced by the same causes which would have given rise to it had no such disease, operation, or wound preceded. But, whatever be the mode of origin of such cases, many of which properly belong to a category to which attention will be called by and by, it may safely be maintained that pneumonia, whenever it shows itself *ab initio*, is idiopathic, that it is always produced by its appropriate causes, and, what is more to our present purpose, that it is independent for its origin of

those morbid agencies to which autumnal fevers are due; that it is not less independent of such fevers in a pathological point of view, and that it cannot, therefore, be lowered to the rank of a peculiar form of that class of diseases."

The facts upon which he relies in support of this opinion are the following: that pneumonia is common where fevers are seldom or never known; that it is not necessarily present where fevers are common; that the two diseases prevail at different seasons; that they appear under the influence of opposite winds; that pneumonia is of yearly occurrence, while fever is not always so, even in countries subject to malarious diseases; that their altitude of range is not the same, fevers being limited by elevation, while pneumonia prevails at all heights; that fevers are influenced by the nature of the soil, while pneumonia is a disease of all localities; finally, that frosts arrest fevers but not pneumonia. These are all matters of common observation and hardly need to be supported by the citation of authorities. In view of their unquestioned reality, Dr. LA ROCHE seems justified in using the following language:

"So far as they go, they seem conclusive; and with suitable deference to the authority of writers who entertain sentiments different from those which it is my object to uphold, I cannot think I hazard much when expressing the opinion that the impartial reader, after perusing what precedes, will acknowledge that it will puzzle them, talented and ingenious as some of them undoubtedly are, to reconcile those facts with the hypothesis set forth regarding the identity of pneumonia with malarial fevers. Let them, if possible, account for the aforesaid circumstances—the absence of malarial fever where pneumonia is rife; and the extensive prevalence of the former in localities where the latter is either not of remarkable frequency, or scarcely seen at all—the cessation of the one and continuance of the other—and say how all this could be brought about, if the inflammation of the lungs, in the disease in question, were due to the agency of the cause producing those fevers; in other words, if pneumonia were really and substantially nothing more than a peculiar form of remittent and intermittent fever. Were the etiological connection and pathological dependence such as maintained, we should expect to find that the cause, if diffused in such localities to an extent, and possessed of a degree of energy, sufficient to produce a large number of cases of pneumonia, or, as others would say, of the pneumonic form of autumnal fever, would also give rise to a greater or less number of cases

of the other and more legitimate and characteristic forms of those fevers. This would be the more natural to anticipate, because the climatorial influences noted in those favored spots where fevers have never prevailed, or have long ceased to do so, are not different from those under the empire of which such fevers everywhere appear; or have remained the same amid all the changes that have occurred in regard to their prevalence;—the only difference consisting in the absence or removal of certain terrestrial or local conditions, which, whatever be the nature of their association with the ordinary forms of the supposed protean disease, have apparently nothing in the world to do with the existence of what is now maintained to be simply another form of the same. The result being different—pneumonia occurring where autumnal fever has never originated, or where, if it has done so, it now seldom if ever prevails—we are warranted in concluding that the causes of the two diseases are different; that the one may exist without the other; that when the two diseases show themselves at the same time, and in the same locality, two sets of causes necessarily exercise their baneful influences and produce, not one disease assuming different forms, and presenting different aspects, but two distinct complaints; and that, consequently, pneumonia cannot justly be held up as forming part and parcel of autumnal fevers, which, as regards etiology, are governed by very different laws, and influenced by very different agencies."

To the majority of his readers the arguments of Dr. La Roche adduced in the first hundred pages of his work will appear perfectly conclusive, and for them the discussion might have ended with his first chapter. In fact, there are many who regard any argument against the hypothesis he is opposing as unnecessary, and he has been charged by some of his reviewers with assailing what no one supported. But this is a mistake. The doctrine has its advocates, to whom the elaborate argument of this work is by no means satisfactory; and there are also those who question the existence of any specific cause of fevers, but hold to their having their origin in atmospherical vicissitudes. Dr. La Roche, therefore, before proceeding with the discussion immediately in hand, takes up this question and devotes three chapters to its consideration.

It is a full, earnest, and most able presentation of the subject. Beginning with the history of scientific medicine, Dr. La Roche shows that the belief in an extraneous unwholesome principle in the atmosphere as the cause of fevers, has had an existence in all ages. Hippocrates held that the cause of epidemic fevers resides

in the air, and he, with great acumen, accounted for the fact that all animals are not alike affected by this aërial poison, upon the principle "that what is proper or improper for one species is not necessarily equally so for other species." ANTIPATER, the Stoic, speaks "of exhalations from the damp earth, that dart down again like deadly serpents, poisoning and infecting every thing by means of their corrupting agency." The Romans had equal faith in the reality of malaria, and their poets refer it to the joint action of the sun and stagnant waters. COLUMELLA cautions against the erection of houses or military posts in the neighborhood of marshes, because when acted upon by heat, he says, they eject a baleful poison, giving rise to "obscure diseases;" or in other words, to autumnal fevers. PALLADIUS, in like manner, and also VITRUVIUS, speak of the danger of residing near to marshes; and DIODORUS SICULUS gives an instructive example of the perils of such sources of infection. At the siege of Syracuse, he states that "the Carthagenians being encamped in the immediate vicinity of an infectious marsh, and exposed to the thick and heavy vapors issuing therefrom, and being moreover accumulated on a low and humid locality, a pestilential fever broke out among them, and gave rise to a large mortality." To the same cause this writer ascribes the plague of Athens. But it is not our intention to follow Dr. LA ROCHE in his history of medical opinion on this subject. We will simply remark in leaving it, that no writer in our country is better qualified to do the subject justice, if indeed there is one whose mind is so fully stored with all the learning that bears upon it.

He takes up the various arguments urged against the agency of malaria, and his answer to each seems to us fair and satisfactory. The mass of facts which he has accumulated on this point is immense, and the conclusion to which they will bring any unbiased mind, we think, can hardly be doubtful. All that we can do is to select a few of his examples, one of which is as follows:—

"If we approach to, or remain some length of time—occasionally a few hours or moments—in those localities, or in their immediate vicinity, we are stricken down with fever; if we avoid them we escape. The South Carolinan gives up his plantation residence in summer, and removes to Charleston or to the mountains, where he is safe from the country fever. Let him visit his

estate before the advent of frost, and especially let him sleep there, and he runs great risk of an attack. In yellow fever seasons, strangers must leave or abstain from entering the city; if they venture into it, they will in all probability have the disease. With us in Philadelphia—as with the residents of other cities of the middle and neighboring States, and of some parts of Europe—where infected districts are of limited extent, the disease is restricted to individuals who venture within the bounds of these. At a very few paces from the sickly spot to which they penetrated, and where they doubtless imbibed the seeds of the fever, people move about, business is transacted with impunity, and every thing often looks precisely as if the city were not the seat of an epidemic. By avoiding our river banks, or our meadow or marshy land, by remaining within the limits of the city, or selecting high and dry situations in the country, Philadelphians, like Charlestonians, keep free from chills and fever, or remittents; by adopting a different course, they expose themselves to an attack. On the coast of the West Indies, and of Africa, as well, indeed, as in this country and Europe, vessels remain healthy so long as they keep at a distance from land.* But woe to them if, during the sickly season, they approach the shore, or enter the river streams. The moment they do that they become liable to the disease. Lind, in his work on preserving the health of seamen, states that when Commodore Long's squadron, in the months of July and August, 1744, lay off the mouth of the Tiber, it was observed that one or two of the ships which lay nearest the shore began to be affected by the pernicious vapor from the land; whilst some others, lying farther out at sea, at but a very small distance from the former, had not a man sick at the same time."

It is contended by some etiologists that vicissitudes of temperature are sufficient to explain the rise of fevers. To this doctrine Dr. L. opposes the following objections:—

"But after carefully examining what the advocates of the opinion have adduced in its support, it appears to me that were atmospheric vicissitudes the efficient agent in the production of periodic and other forms of malarial fever, we might expect to find these diseases prevailing principally in seasons in which the number of dew or cold nights following on hot days is greatest.

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* Lind, on Hot Climates, 138–178–9; *Ibid.* on Seamen, 78; Trotter, i. 456; Rouppe, 75—English translation, 69; Rush, iii, 83; Bancroft, 171; *Ib.* Sequel, 166; Clark on Long Voyages, i. 124; Moseley, 57; P. McLean, 26; Ferguson's Recollections, 151; Gillespie, 20; Fontana, 12; Bally, 455; Pringle, 57, 98; Chervin's Letter to Dr. Manfalcon, 12; Burnett, 264–274; Caldwell's Prize Diss. 139; Caldwell's Essay on Mal. in Boston Jour. 510; Williams's Morbid Poisons, ii. 446; Smith, Edinburgh Jour. xxxv. 49; Amie, Edinburgh Jour. xxxv. 264; Johnson, Charleston Jour. iv. 160.

We should be justified also in expecting malarial fevers to occur not once or occasionally, but frequently, if not universally, whenever the supposed cause manifests itself; or, rather, it ought to be found that every time such fevers prevail—sporadically or epidemically—the difference of temperature between day and night is greater than in healthy seasons. We should besides expect to find them appearing, not sporadically only, but in an epidemic form, as well in clean, well-paved, and well-aired cities, where atmospherical vicissitudes are as apt to be felt as elsewhere, as on the borders of creeks, rivers, and lakes, and in meadow lands, in level plains or marshy localities; and whenever a man whose body has been overheated is suddenly exposed to a cold atmosphere, or plunged into a cold bath, he ought to be regarded as no less liable to suffer from an intermittent, a remittent, or yellow fever, of the most legitimate kind, than from a pleurisy, a catarrh, or any other kindred disease. But so far from this being the case, experience shows that fevers occur and prevail extensively in situations where, and at periods when, such vicissitudes are not felt at all, or are so to too inconsiderable an extent to be productive of the baneful effects ascribed to them; and, on the other hand, that those diseases are either seldom felt or completely unknown in localities where, or seasons when, sudden changes of temperature, or the contrast between night and day, are as common and noted as, if not more so, than in places, and at times remarkable for insalubrity. Surely a morbid agent which, if it really exercises any influence in the production of autumnal fevers, does so only in localities of a special kind, where, let it be remembered, those fevers often appear and even abound without its aid; an agent which habitually fails to produce those same fevers in localities of a different kind; which produces the effect ascribed to it only in a certain season of the year, however manifestly it may show itself at other periods, and whose known ordinary products everywhere and at all times, are diseases very different in every respect from those in question; such an agent, I say, cannot lay a just claim to be held in the light of the efficient or necessary cause of the latter.

"The climate of Newfoundland is marked by sudden and frequent vicissitudes of atmosphere; notwithstanding which, however, fevers are scarcely known there, even among those most exposed.* The whole coast of this continent, from one extremity to another, is proverbial for the frequency, suddenness, and extent of such changes; and yet, while some localities are annually the seat of the pyrexial complaints under consideration, others, equally subject to the former, remain untouched by the disease."

It is a matter of general observation, that fevers are not always

* Tullock, Sickness, etc., of British Army in British America, 35.

generated in places which seem to combine all the circumstances favorable to their production. In the midst of marshes we sometimes find the inhabitants, for a time, enjoying an immunity from fevers. The exemption is to be explained in various ways:—

"Sometimes it is due to the high elevation above the level of sea of the places so exempted. At another time, the effect is attributable to the absence of a sufficiently high and long continued atmospheric heat. In other instances, the circumstance is due to a very perfect and constant ventilation, and a very rarefied and pure character of atmosphere. In some instances, again, it may be explained by the peculiar geological character of the soil; the quantity and the quality of the surface-water; or the proportion of sulphates the latter contains in solution. Sometimes, also, it is due to the rapidity of the river currents, the excessive and rapid dryness of the atmosphere during the hot season, the existence and extensive prevalence of refreshing and purifying winds, and often to the degree of desiccation the surface has attained by natural or artificial means, the degree of cultivation to which it has been carried, and other agencies of like import, as well as by the extent to which it is sheltered, by rich foliage and other means, from the action of the sun. So far as ships are concerned, the freedom from fever will often be found ascribable to the latitude in which they may be navigating, to the early period of the year in which they may be at sea, or otherwise employed; or to the absence of an epidemic constitution of atmosphere.

"In the examination of the subject, none of these contingencies should be overlooked. Experience has shown that there is an altitudinal range, varying in different parts and according to the peculiar form of the disease, beyond which, owing to the greater rarefaction of the air, peculiarity of temperature, or other circumstances, the elimination of the febrile poison does not take place, or the latter is rendered inert; that a certain range and continued elevation of the thermometer is required for its development; and that free ventilation, and strong unimpeded currents of wind are inimical to its morbid agency. Experience has shown in addition, that while, as we have seen, an argillaceous soil is prone to the development of fever, a region of primary formation, with a sandy, calcareous, arid, and sterile soil, allowing no stagnant water, and containing only a small proportion of organic remains, is usually exempt from the disease; that, in not a few instances, the passage from a fever to a healthy locality takes place within circumscribed boundaries, and is indicated by a difference in the geological formation of the soil; and that, if exceptions to this occur, the explanation is easily found in the fact that the cause of the disease has been wafted from some pestiferous region, to a locality which otherwise, would have remained unaffected; or in the circum-

stance that the calcareous structure of the sickly spot, though naturally of a kind not subject to fever, is covered over, extensively or in spots, with a more or less thick coating of rich absorbent soil, possesses an argillaceous substratum, or presents depressions, in which water stagnates, and the process of decomposition takes place. Again, experience has shown that water containing a small amount of sulphates, is less injurious to health, and less prone to favor the formation of malaria, than that which is richer in those materials; while on examination, it is found that the vegetable matter contained in peat moss is subcarbonized, and necessarily unsusceptible of decomposition; that such moss as already stated, is known to possess peculiar antiseptic qualities, which, by imparting to it the power of preserving not only trees and other vegetable, but animal substances from putrefaction, renders it unfit to evolve the efficient cause of periodic fevers.

"See the remarkable contrast noticed in the relative prevalence of agues in New England, New Brunswick and Nova Scotia, on the one hand, and on the other, in the region of the great lakes on either the American or British soil. This contrast, resulting from the absence of such fevers in the former region, and its great prevalence in the latter finds no explanation, as Dr. Forry well remarks, in any difference of climate as regards temperature and moisture; but the solution must be sought in the modification of climate arising from geological formation and the nature of the soil. "Now, as the region of New England, as far as the St. Lawrence, with little exception, has a primative formation, with a sandy, sterile soil, whilst that of the lakes consists of a secondary formation, having not unfrequently, an alluvial superstratum, composed of a rich vegetable mould from three to six feet deep, it is not difficult to deduce the correct inference. In the former, the geological structure is destitute of organic remains, and the little contained in the sandy soil does not find enough moisture to induce the necessary chemical action; while in the latter, not only is the geological formation of secondary origin, but the deep, rich soil is sufficiently humid, when a high temperature acts upon the organic remains with which it abounds, for the development of the morbid poison called malaria."

"The fact that some marshy surfaces, which are supposed to give rise to fevers by means of the exhalations issuing from them, prove completely, or to a great extent, innocuous in certain seasons, and even during a succession of years, cannot be urged as an argument in favor of the denial of the malarial cause of fever, finding, as it does, a ready explanation in the absence, during those seasons of exemption, of the thermometrical and hygrometrical conditions, which experience has taught us to regard as essential to the evolution of the poison, as well as, often, in the absence of that peculiar state of atmosphere to which the name of

epidemic, constitution, or meteoration has been applied; and the agency of which, in diffusing and enhancing the virulence of the cause of certain diseases—explain it as we may, and extraordinary as it may appear—it would be just as reasonable to doubt, as to doubt the existence of fevers themselves."

Malarial fevers unquestionably depend upon a number of concurring circumstances, and if any one be wanting the disease will not arise. Marshes in high northern regions are innocuous, and a certain elevation is equivalent to a number of degrees of latitude. As we ascend elevated mountains we virtually, as to fevers, pass into northern regions. And so the degree of heat, shelter from the action of the sun, ventilation, and humidity of the soil are all agents of a controlling or modifying character, too much or too little of the first and last producing the same result. There must be a certain amount of heat and moisture to induce decomposition of organic matter, which is arrested alike by the excess or the absence of either.

"Now, when we find the cause of fever requiring for its development the action of the very agencies which are necessary to insure the development of the gaseous products of decomposition—when we find that without these agencies, applied in certain proportions, neither those gaseous products nor the efficient cause of fever will manifest themselves; and that in all instances in which the latter is produced, as shown by the occurrence of fever, materials capable, when acted upon by the agencies in question, of giving rise to the evolvement of the gaseous products of decomposition—organic matter in various conditions and states of modification exist; and that the total absence of these materials—whatsoever be the degree of heat, and of terrestial and atmospheric moisture—carries along with it an absence of fever, we can have no reason to doubt the propriety of admitting that the cause of the disease bears a close analogy to the aforesaid gaseous products; and that if in regard to the former, heat, humidity, and other agencies, acting in given proportion and in concert, on animal or vegetable matters, give rise to the evolvement of certain gaseous substances, the febrile poison, which in like manner requires for its development the action of the same agencies, as also the existence of kindred organic matter, must necessarily consist also of some modification of a similar kind of gaseous substance."

Dr. La Roche continues through the two succeeding chapters to multiply proofs of the existence and morbid agency of malaria. His collection of facts in support of his position is immense. No

authority seems to have escaped him, and if he has not succeeded in establishing the point in question, no future effort short of the demonstration of the poison promises to avail anything. The details into which he enters, although extended, are by no means tedious, but, on the contrary, will be read by those whose minds are in doubt on the subject with sustained interest. The learning displayed by the author in this discussion, the patience of research, and the calm, philosophical spirit in which it is conducted, are worthy of the highest praise. As we have accompanied him through the argument, we have been continually reminded by his abounding treasury of facts of the labors of another honored American physician—of a volume which he, in accordance with general opinion, pronounces "imperishable." In many points, this work of Dr. LA ROCHE's bears a decided resemblance to the treatise of Dr. DRAKE, and must take its place in the same rank with that monument of industry and learning. We shall not quote any further from this part of his volume, but return to the comparison of pneumonia and autumnal fevers, which he resumes in his fifth chapter.

In the first place, he shows that the causes of these fevers and pneumonia are different. Thus, malarial fevers are restricted within certain localities, often very limited. Further, the cause of these fevers is wafted by the wind, so that places in the neighborhood of marshes and ponds, but in opposite directions from these sources of malaria, are differently affected, accordingly as the winds bear the poison to them or carry it away, neither of which can be asserted of pneumonia. And again it is well known that overflows of the sea, lakes, and rivers; the establishment of mill-dams; the clearing of new land; the digging of canals; the partial draining of marshes, all are fruitful sources of fever; but are harmless so far as thoracic inflammations are concerned. Numerous other points of difference might be pointed out, but these are deemed sufficient.

Pneumonia is a disease of all climates and all seasons, while autumnal fevers, as the name implies, are especially prevalent at certain seasons, and are localized in certain places.

"Let us examine the subject in another point of view, and acknowledge, for a moment, that remittent, intermittent, and yellow

fevers, and other zymotic diseases more or less liable to them, are not the offspring of peculiar morbid poisons exhaled from the localities where they prevail; and are, so far as that goes, on a par with pneumonic inflammations; I am not sure that the admission would afford much help to those whose opinions are under examination; for it is impossible to shut our eyes to the fact, that the localization of those diseases takes place only where certain peculiar combinations of materials appertaining to the soil, or which have found their way there accidentally or otherwise, exist. Bearing this in mind, we arrive at once at the conclusion, that the real cause, whatsoever it may be, meets there certain agencies which so modify the system as to render it liable to their morbid impress. In a word, what many regard as the active and efficient cause of those diseases, may, after all, be only a predisposing agent. If this be correct, autumnal and periodic fevers are, in that respect, on an equal footing with other zymotic diseases arising from specific ferments or poisons. Every one knows that while Asiatic cholera and the febrile exanthemata are never produced by the malarial exhalations evolved frem foul localities or marshy surfaces; while typhus and typhoid fevers are, as it is said, seldom the offspring of the former, and certainly never of the latter; while none of these diseases are occasioned by the ingestion of putrescent food, by the use of foul water, by imperfect ventilation, by starvation, by excessive muscular exertions, by the intemperate use of alcoholic liquors, and the like; and while, with the exception, perhaps, of typhus, they do not arise from the effluvia proceeding from the human body—particularly the lungs and skin—and consisting of the effete and highly putrescent matter mingled with the air or prespiration—it is a notorious fact, that they are principally rife in situations where such influences operate, and strike with greater violence, malignancy, and fatality among individuals exposed to their baneful effects. This is true, whether the disease be the product of a zymotic poison floating in the atmosphere, and independent for its development of any organic process, as Asiatic cholera; or whether it arises from a poison formed in the system and transmissible from one individual to another through means of contact, or the medium of the atmosphere; or whether, again, it is due to a particular poison proceeding from external sources of animal or vegetable decomposition, or from the result of a morbific condition of the system, as is the case, perhaps, with puerperal complaints, erysipelas, and *surgical fever*."

It is hardly logical to infer, that diseases differing so widely as pneumonia and malarial fevers both in symptoms and anatomical lesions, are the products of a common cause. We conclude that small-pox and measles, that yellow fever and intermittent fever,

that cholera and influenza, are engendered by different causes, because in symptoms they are so different from each other. Pneumonia and malarial fevers are as unlike each other as are any of these diseases, and moreover nothing is better understood than that the fever of pneumonia is entirely dependent upon the local inflammation, and yields when the inflammation is subdued. The phenomena of pneumonia are those which indicate acute inflammation; in fever the inflammation, if it supervene at all, is secondary. The pathological conditions and results are different.

"It need scarcely be remarked, that in all inflammations the blood is in what has been denominated a state of hyperinosis. It contains more fibrin than in the normal state—5 or 6 parts in 1,000, instead of 2 or 3—while the corpuscles decrease in proportion to the excess of the fibrin, from about 141.1 in 1,000 to about 128.0. The fatty matter also is increased; and, as a consequence of all these changes, the whole solid residue is diminished. The blood coagulates more slowly than in the normal state; the clot is not usually small, but very firm and consistent, and does not break up for a considerable time. It is almost invariably covered with a buffy coat, which is firm, tough, and intimately connected with the clot; its edge is often turned upwards and its surface uneven. If the clot be small, the buffy coat and the surface of the clot are more or less cupped, and the serum is of a pure lemon color, not tinged red. When whipped, the fibrin separates in thicker and more solid masses than in ordinary blood. After the removal of the fibrin the corpuscles quickly sink, and frequently occupy only one-fourth of the whole fluid, while in healthy blood they sink very imperfectly, or not at all. The blood has always an alkaline reaction, and is of a higher temperature than in the ordinary state. All these changes are proportionate to the degree of the inflammation. Such is the condition of the blood in the phlegmasiæ generally. In pneumonia, the state of hyperinosis is even more decided than in other diseases of that class, as the blood retains its heat longer; the clot is below the ordinary size, and very consistent, and does not break down for a considerable time. It admits of being sliced, and the sections retain their consistency for some time. Its surface is covered with the buffy coat, and is more or less cupped. The serum is of a pure yellow color. The quantity of solid constituents is usually less than in healthy blood. The proportion of fibrin increases and varies, according to Andral and Gavarret, from 4 to 10.5 in 1,000 parts, with a mean (in 58 experiments of 7.5; from 5.919 to 12.726, according to Rindskopf, and 3.4 to 9.15, with a mean of 6, according to Simon; while the blood corpuscles, according to the first experimenters, amount to from 83.2 to 137, with a mean of 114.1; and, according to Simon,

to as little as from 36 to 78. If other symptoms present themselves, or if the blood assumes a different appearance, these results are due to complications; they do not constitute a necessary link in the chain of phenomena imparting an individuality to the disease, and are not, therefore, pathognomic."

The blood in fever, on the contrary, is of a soft, diffluent, and dark color, without buffy coat, of an alkaline reaction, sometimes poor and watery, in some instances forming no coagulum, all going to show a deficiency of fibrin.

"Can any one, with such facts before him, seeing an increase of fibrin on the one hand, and a diminution of the same element on the other, unite in sentiment with those who regard the two diseases as pathologically identical, and maintain with them that pneumonia is really and substantially nothing more than a peculiar form of remittent and intermittent fever? In other words, can he be persuaded that a peculiar disease, characterized by a particular condition of the blood, and depending for its existence on the local inflammation of a special organ, is only a different form of another disease, marked by a diametrically opposite condition of that fluid, and not necessarily connected with the inflammation of that, or any other organ?"

The other anatomical characters of the two affections differ not less widely than those of the blood, and added to these circumstances, so convincing in their import, we have the fact that the diseases are different in the duration of their processes of incubation, and also that, while one attack of pneumonia rather predisposes to other attacks, a comparative immunity from some forms of autumnal fever is enjoyed by those who have once labored under them.

In the next chapter, Dr. La Roche goes on to show that the power of acclimatization does not extend to pneumonia, as it is known to do to yellow fever, and that fevers and pneumonia are not alike in the force with which they assail the several races. Negroes, it is admitted, are far less susceptible to the poison of fevers than are the white race, but are quite as liable to attacks of pneumonia. And so in regard to age. Children are often the subjects of pneumonia, but fevers are emphatically diseases of adult life. Passion and the emotions influence pneumonia but little, while all observant practitioners have remarked the baneful effects of mental depression in the production of fevers.

But we must leave these points and proceed to give the author's views of the relations of pneumonia to autumnal fevers, which are summed up in the statement that, although these diseases are "independent of each other, as regards nature and cause, they combine together, and form, like other complaints, hybrid diseases."

The concluding chapter of this learned work is taken up with proofs confirmatory of this proposition, and we hesitate not to express our thorough conviction that this view of the matter is the correct one. In temperate climates, and particularly in malarious districts, pneumonia is unquestionably often a hybrid disease, periodical in its type, and demanding the remedies applicable to intermittent fever. DR. LA ROCHE remarks:

"It is a fact well ascertained, and perfectly familiar to those who have investigated the subject of the progress and succession of epidemic or endemic diseases, that the type of the fever which prevails immediately before the outbreak of pneumonia—in other words, before the period of the year at which the usual causes of the latter are mostly encountered and operate with more force and effect on constitutions predisposed to their action arrives—impresses its own character on pulmonary inflammations. Hence at that season, low surfaces, the vicinity of mill-ponds, of the banks of streams, and of other localities, which before were the abodes of pure remittent and intermittent fevers, become the seat of pneumonias, which often assume a marked remittent, and not unfrequently an intermittent character—the result of anterior influences; while the same disease in other situations where malaria is not evolved, or at a more advanced period of the year, when it has been completely destroyed, presents nothing of the kind for a longer period. The same combination of phenomena is necessarily observed for a longer period whenever pneumonia shows itself in localities where malaria continues to be evolved all the year round, or where, from the absence of frost, it is only moderated, and not completely destroyed. In many such cases the inflammation of the lungs presents itself in combination with symptoms appertaining to ordinary bilious remittent fever, or hepatic or bilious derangement, giving rise to what is denominated bilious pleurisy, a form of disease accurately described by many American and European writers. In other instances, the bilious symptoms are not so prominent, and the affection of the lungs is associated with those of simple remittent or intermittent fevers. Indeed, instances of remittent and even intermittent pneumonia, pleurisy and pulmonary catarrh, in which the inflammation is complicated with symptoms indicating the existence in greater or less purity of the element of periodicity, are to be found described in the wri-

tings of the most reliable authors. Morton, who early called attention to them, and indicated the treatment they required, had seen a hundred such cases; and since his day they have continued to be adduced as objects of familiar professional observation, not only in Europe, but in this country also."

These facts have long been familiar to the profession, and the remark is as applicable to pleurisy, influenza and bronchitis, as to pneumonia. The pleurisies of Minorca, in 1745-6, were described by Cleghorn as remittent or intermittent in their character, and Sir George Baker describes the influenza of 1762 as a periodical disease.

"In an excellent essay on the 'relation existing between epidemic and other diseases prevailing at the same time and place, and denominated intercurrent,' Raymond, among others, in reference to facts he had observed during a long series of years, dwelled at some length on the complication of pneumonia with the epidemic or stationary constitution of the atmosphere existing at the time the disease happens to show itself, and remarked:—'Those kinds of thoracic inflammations have constantly assumed the types of the epidemic constitution during the existence of which they appeared. They have engrafted themselves on the epidemic or constitution of the year, and presented the same symptoms and the same functional lesions, in addition to the affection of the respiratory organs which characterizes them in a special manner. Apart from the expectoration, which appertains to them, their march, their critical movements, and their mode of termination, were the same. Inflammation of the lungs is, therefore, composed of, or complicated with, the stationary modes or symptoms of the constitution or epidemic of the year, and of the transient and intercurrent constitutions of the period and of the seasons from which they arise.' If, he continues, intercurrent diseases are founded on constitutional fevers, in their turn intermittent fevers are often complicated with the elements by which the former are characterized."

Dr. La Roche further remarks in continuation of this subject:

"The true nature of these cases did not escape the sagacity of our great medical philosopher, Dr. Drake. 'The lungs, it is well known,' as he remarks, 'are liable to inflammation in this fever; and, instead of occurring late in the disease, like cerebritis, it generally arises at an early period. Such inflammation may prove fatal; and then a *post-mortem* inspection will show the lesions resulting from bronchitis or pleurisy, but more frequently still those of pneumonia, such as sanguineous engorgements and hepatization. But they cannot be regarded as constant, essential, or

characteristic of autumnal fever; for, *first*, a vast majority of cases even those which prove fatal, do not present a single symptom of pulmonary inflammation; and, *second*, this inflammation, in most instances, is the undoubted effect of sudden changes of weather in the latter part of autumn, and must, therefore, be taken as the offspring of an incidental cause, acting subsequently to that which produced the fever.' In another place, Dr. Drake states that the most frequent of the complications occasioned by the influence of malarial fevers is that presented by the pneumonias of the south, and also of the lakes in the north.

"Again, in speaking of the complications of intermittent with other diseases, the same eminent writer farther says: 'but the more frequent and formidable of these complications is that presented by the pneumonias of the south, as also on the shores of lakes in the north, where numerous cases occur, which the profession too often find unmanageable by any method of treatment they have been able to devise.' In another place, he calls attention to the fact that the subdiaphragmatic viscera, except the pancreas, are subject to inflammation in remittent fever, and says: 'Sometimes, however, from idiosyncrasy, or the co-operating action of other causes, inflammation in other parts occurs,' 'and, when the fever makes its attack late in autumn, the combined action of vicissitudes of temperature, and that of the specific cause, developed at an earlier period, may determine inflammation upon the lungs or pleura.' 'The pneumonia bilioso,' says Dr. Potter, 'is a compound affection, originating from a double remote cause.' 'It is the immediate offspring of a low temperature, engendered upon a miasmatic predisposition.'"

The practice of administering anti-periodics in such hybrid cases of pneumonia is not a novel one in medicine, but we agree with Dr. LA ROCHE that it is one which may easily be abused or misapplied. He says:—

"Now, as to the former of these points—the great benefit or superiority claimed for the quinia practice, when resorted to during the abatement of febrile excitement in pneumonia—I cannot greatly err, when expressing the opinion that many, very many practitioners, in all parts of the world, who have seen much of the disease, and acquired the needful skill in its management, will feel no disposition to join in singing the praise of that method, or to adopt it to the exclusion of the one they have heretofore employed. They will say, and I suspect that statistical returns will bear them out in the assertion, that while autumnal fevers, especially when they assume the truly periodic type, call, in some of their stages, for the use of anti periodics, and more particularly of quinia, it is very far from being proved that the same will hold good with re-

gard to pneumonia and kindred thoracic inflammations, which are, to say the least, cured just as well without as with the aid of the salts of bark; that in their usual form they yield to antiphlogistics, general and topical, and to revulsives, or even, in some instances, to the powers of nature; that, in the majority of cases, the quinia practice would be not only useless but hazardous, and should on this account be avoided; that, as a general rule, the remedy, if used at all, can only be so after other means of a different or opposite kind have been resorted to; and that, when these have been properly timed and judiciously employed, the disease seldom requires the aid of tonics, still less of those possessing an anti-periodic power. They will say, besides, that when tonics are called for, it is not in virtue of their anti-periodic effects; that as much advantage, if not more, is derived from other articles of the Materia Medica; and that, when the disease assumes the typhoid form, it may be more successfully treated by local depletions and revulsives, or by the latter without the former, together with stimulating diaphoretics and expectorants, and sometimes with stimulants and tonics. Finally, they will say that, when the latter are required or admissible, quinia will often answer a good purpose; but that it is doubtful whether it will be more serviceable than other articles of the Materia Medica. In all this, the majority of professional men throughout this country and in Europe will, I have little doubt, acquiesce. In these parts, where, I should presume, the treatment of pneumonic inflammation is as well understood, and as successful, as it is in any other section of the world, I feel confident that few physicians of note would be disposed, from experience, to resort to quinia or other kindred remedies at any but the last period of the disease, or when signs of prostration or relaxation of the powers of life manifest themselves."

Dr. La Roche is skeptical as to the high remedial virtues claimed by some for quinine in pneumonia, and regards the large doses sometimes prescribed as being attended with danger, in which opinion he is borne out by the experience of Briquet, Bennet, Melier, Desiderio, Geromini, Baldwin, and others. He quotes these writers to show that this article, when given in an over dose, produces drowsiness, a difficulty of keeping the erect posture, a tendency to immobility, dimness of vision, cerebral excitement, and, when thrown into the blood-vessels, general convulsions. But in whatever doses given, many of those who formerly insisted upon its efficacy in pneumonia are now disposed to discard its use in this disease, except in those cases which are strongly marked by intermissions, and in which the malarial complication is clearly exhibited.

"In these, and in every other case in which this periodic element is manifest, quinia should, undoubtedly, be resorted to, more especially when the disease displays a pernicious or malignant tendency—a circumstance which renders the recurrence of a paroxysm of the utmost danger. These cases, in which the inflammation is in all probability modified by the malarial taint, in such a way as to tolerate the use of remedies, which, under other circumstances, could not be borne with impunity, resist every other mode of treatment. They cannot be cured by antiphlogistics alone; for although by these the inflammatory affection of the lungs may, if uncombined, be removed, the malarial fever or taint is not to be so destroyed; and the recurrence of every paroxysm or exacerbation, has the effect of aggravating the local disease; which cannot therefore, be eradicated, unless a stop be put, by anti-periodic remedies, to the complicating complaint. With the cessation of the latter, the pneumonic inflammation, if it has not reached beyond the first stage, generally disappears also. In other cases, it abates considerably, as indicated by an improvement in the general symptoms and physical signs."

SARCONE, as long ago as the year 1764, bore testimony to the value of this practice in such complications. "There is no one among us," he says, "who is not in a condition to present numerous observations respecting the happy results obtained by cinchona in affections of the lungs, combined with periodic fever. I myself, though young in the profession, am able to adduce numerous examples of the useful employment of that remedy in the diseases in question."

But the application of this practice in pneumonia is exceedingly limited, even in southern countries, there being only now and then a case of a well-marked periodic character to which it is adapted. It is only in such instances, where malaria is exerting a joint influence with the inflammatory disease on the system, that quinine is efficacious, and therefore the argument founded on the general superiority of this mode of treatment fails in this, that its truth is far from having been established. We are sure that few practitioners after a fair trial for a number of years would be disposed to claim for it a general application to pneumonia.

We make one quotation more from this excellent work, and with it must bring this article to a close.

"As to the second—that the success of quinia in pneumonia must be viewed as a sure proof that this disease is identified with, and constitutes only a particular form of periodic or autumnal

fever, in the treatment of which that remedy is, if not a specific, at least a most efficacious remedy; it need only be remarked that, even were we disposed to recognize the validity of the claims set up in favor of quinia in all instances of pneumonia, it would be illogical to deduce from that superiority a proof of the identity in question. As everyone knows, quinia is daily used advantageously in diseases which owe their origin to causes very different from the legitimate poison of autumnal fevers, and which, nevertheless, it is not probable any one would be disposed to regard as constituting really and substantially anything more than particular forms of those fevers. In articular rheumatism, arising without malarial taint, and having nothing in the world in common with autumnal fevers, it has been and is employed by Briquet and others, with, as it is said, great utility. No one but Dr. McCulloch will be inclined to maintain the intimate and *constant* dependence of neuralgia upon intermittent fever, and to regard it as being produced *exclusively* by malaria. That it is often, as remarked by Dr. Drake, the *consequence* of autumnal fevers, especially when it assumes the periodic type, no one will deny. But it is also found to be the consequence of other complaints in no way allied to such fevers;—cases occurring and assuming the intermittent character under circumstances which forbid the idea of any malarial agency. Nevertheless, quinia is often beneficially employed in the various forms of that painful disease.

"Whatever be the cause of periodicity in a disease, or rather whatever be the nature and cause of a disease, which presents a well-marked remittent or intermittent character, quinia will be found a useful remedy in its treatment. It is useful also in certain nervous disorders in which the periodic element does not manifest itself, and which have no more to do with periodic fever than with smallpox or syphilis; and if we conclude that pneumonia, generally, is really and substantially nothing more than a peculiar form of remittent and intermittent fever, and should take its appropriate place (in company with pleurisy, &c.,) under the plain designation—*periodic fever*, on the ground that certain cases of it are, under particular circumstances, and at a particular period of their course, greatly benefited or arrested by quinia; if with Dr. Forry, and others, we admit that the subjection of these diseases to the same remedies which are found to arrest the course of the one, also arrests the course of the other, 'implies a close alliance, if not a common origin;' we shall be led to conclude, also, that all the other disorders in which it may be useful—wheresoever the locality, and at whatsoever season they may show themselves—are of malarial origin; and must, in like manner, take their appropriate place under the same plain designation. Such a mode of reasoning would lead us, if we wish to be consistent, to pathological deductions, at which our good sense must revolt, and which would

ill accord with the principles of the inductive philosophy so dear to some of our opponents. No one will deny that mercury is the remedy for syphilis; for although, in the days of our infatuation for the Broussaian doctrine, many practitioners denied the necessity or propriety of that remedy, and attributed to it a thousand evils, experience has shown, and no less an authority than Ricord maintains, that it is superior to every other means, especially in the first stage of the disease, and that in many cases it cannot be superseded by any other. But mercury is found very useful, and even indispensable in various complaints; in hepatic and other glandular derangements; in inflammation of the serous membranes of the abdomen, chest, and head; in sundry diseases of the eye; iritis, for example. It is useful also in various other inflammations and engorgements, and even in some forms of periodic and malignant fevers. Surely, we shall look in vain for a pathologist disposed to conclude that the benefit derived in these latter diseases from mercury indicates their identity with, or dependence on syphilis, of which mercury must be viewed as the specific. If such an admission cannot be entertained—if we acknowledge that the advantages derived from mercury, in the diseases mentioned, in no way justify a belief in the identity of these with syphilis, it is difficult to perceive the propriety of viewing pneumonia as nothing more than a particular form of periodic fever, on the plea that quinia may prove useful when resorted to at the period of remission. The second limb of the argument, founded on treatment, must, therefore, like the first, be set aside."

Such is a pretty full account of the contents of this elaborate volume, of which we have already expressed the opinion, that it is entitled to take rank among the most meritorious of American medical productions. It is as scholarly in its style, as it is full in matter and powerful in argument. Not the least valuable feature in it is its constant reference to authorities, which renders it peculiarly interesting to those who wish to pursue researches in the same direction. If one is desirous of knowing what has been written on any of these subjects, he has only to turn to the pages of Dr. LA ROCHE. We cordially recommend his work to our readers as one which reflects honor upon the medical literature of our country.

Editorial Department.

HEALTH OF EMIGRANT SHIPS.

This subject, so important to our great seaport towns and so interesting to humanity, has at last attracted the attention of Congress. An able and exceedingly valuable report was made to the Senate on the 2nd of this month, by Hon. Hamilton Fish, of New York, embracing an analysis of a flood of facts collected by the committee appointed to investigate the matter. A frightful mortality, it is well known, has attended the poor who have come in such multitudes to our shores from the States of Europe during the last few years—a mortality as unnecessary as it is disgraceful to our age. It has resulted from the carelessness or cupidity of the owners of the emigrant ships—the want of ventilation, and of exercise in the open air on deck, overcrowding, insufficient or bad food, and the disgusting filth suffered to accumulate. Of 36,950 passengers in ships sailing from Europe in the last four months of the last year, 1,933 died of cholera before reaching New York, and 457 were sent to the hospital on landing, there probably to terminate their miserable existence, making nearly two per cent. of deaths among the whole numbor of persons who had embarked for the New World. The ships in which the pestilence broke out were those, as might have been predicted, which were most crowded with passengers, the amount of disease being in proportion to the crowding.

To provide the remedy for this shocking waste of human life, the committee recommended a number of stringent rules and regulations, which the captain has the power to enforce. Passenger ships are required to have space on the upper deck for a prominade for air and exercise; the number of passengers is to be limited; privies are to be increased in number, and those for females to be separated from those for male passengers. The captain has supervision over the culinary department, and is responsible for

the cooking and distribution of the provisions, at stated hours. For failure in this duty he may be fined $1,000 and imprisoned for one year; and, in addition, each passenger may recover three dollars per day for each day of short allowance. But the most important and effective provision of the bill proposed, is that which makes it the pecuniary interest of the ship to bring its passengers safely to port, by compelling a forfeiture of the passage money of each one who dies on the voyage, of whatever disease. This is an admirable provision, which will not only insure attention to the comfort and health of the passengers, but will keep out the infirm and diseased, whose presence on board a crowded ship is calculated to breed infection. Such a law is in force in England and has been found to produce the happiest results in the British passenger trade. At one time, nearly one half of the criminal emigrants from England to Botany Bay died on the voyage; but a law was enacted, that passage money should be paid only for those passengers who were landed in safety, and the deaths declined, the first year, to one and a half per cent.

We trust that on the re-assembling of Congress, the bill submitted by Mr. FISH will be enacted. It is wise, humane, and important beyond any measure that, for many months, has come before our National Legislature. The operation of such a law cannot fail to be beneficent in the highest degree.

DR. E. WILLIAMS.

Our respected foreign correspondent, Dr. E. WILLIAMS, of Cincinnati, has an interesting paper in the *London Medical Gazette*, which we shall transfer to the pages of the next number of our Journal. Dr. WILLIAMS is employing his time abroad most profitably, and makes a favorable impression upon all with whom in his travels he is brought in contact. We have been permitted to make the following extract from a letter to a gentleman in this city, written by Mr. JAMES DIXON, Surgeon to the London Ophthalmic Hospital:

"I am happy of this opportunity of bearing testimony to the unwearied zeal, intelligence, and judgment with which Dr. WILLIAMS is availing himself of the advantages his European tour

affords him. Nothing worthy of note seems to escape him, and the shrewd good sense, and thoroughly unprejudiced criticism I have so often noticed in my conversations with him respecting what he had seen in France, are an earnest that his German tour will still farther enrich his stores of professional knowledge.

"We have during the last few years been visited by a great number of our professional brethren from the United States; and it is one of the greatest privileges of our profession, to my mind, to be able, whatever our points of difference may be on political, religious, or other subjects, to hail at once as brothers, on common ground, those who are separated from us, on ordinary occasions, by the width of half the globe. This is a privilege confined to the medical profession, or nearly so."

RICHARDSON'S ANATOMY.

We have already given the impressions of two reviewers respecting this work, but cheerfully make room for the following notice from the pen of a promising young anatomist of our city.

We allude, with pleasure to this work of Dr. Richardson. Months ago, when we saw this anatomist looking over files of manuscript, we predicted the out-coming of an anatomy which would do credit to its author. It is written for students, for the *dissecting rooms*, the wants of which few can be presumed to know better that Dr. Richardson. It has not the minutiæ of Cruveilhier, or of Quain and Sharpey, but for reference for the surgeon it will be found all that is desired. The chapter on general anatomy supplies, we think, a desideratum. It is a general and finite view of microscopic anatomy. He describes here what is *visible*, and what he himself has seen. Not so much as usual is said of osteogeny—this is well, amply enough is given for an elementary book. With the myology, splanchnology, anginology and neurology we are alike pleased, and we like the *practical* order in which they are severally treated of. Every thing is written in a clear, concise, readable manner.

In speaking of the capacity of blood-vessels, the author alludes to and corrects the remarkable error, found in some not very old works on anatomy, relative to the increase of capacity of vessels as they divide. False physiological deductions as to the increasing velocity of the circulating fluid, &c., of more importance than the error itself, have hence arisen. We regret that Dr. Richardson did not proceed farther, and state more exactly the quantity and law of this increase in the capacity of arteries and veins. We doubt not that nature will be found here recognising, as it were, her hydraulic and hydrostatic principles. We doubt not, that when division

of an arterial trunk occurs, the diameters of the branches are determined by the length of the tube, its tortuosity or directness, its direction, horizontal or perpendicular, the moderate or extraordinary *vires à tergo et a fronte* of the blood—in fine, by all the laws of hydraulics and hydrostatics. Let us take for example the aorta at its termination. We obtain the following data from measurement:

	Inches.		Sq. Inches.
Diameter of Aorta,	.7766	Area of Aorta,	.4737
do Iliacs,	.5093	do Iliacs,	.2037
do Middle Sacral,	.1012	do Middle Sacral,	.0081

It will be observed that the sum of the areas of the terminal branches exceeds the area of the trunk by .01511 square inches. So it has been inferred that the velocity of the blood was slightly diminished. But though the area of the aorta is less than the sum of the area of its branches, its power of transmission of fluids is greater than theirs. Its power, in this respect, is to the power of each iliac 29.10; the power of the aorta is to that of the middle sacral as 731.10; and the power of the aorta is to the sum of the powers of its terminal branches as 50.35 (approximatively). It will be seen that in this calculation several of the principles, which we have stated as determining the calibre of blood vessels at their divisions, are disregarded; otherwise we believe an exact adaptation, in size, of the aorta to its terminal branches would be shown.

Dr. Richardson, with all other anatomists whose works we have seen, considers the action of the psoas-iliac muscle to be rotation outward of the thigh. We venture to express our doubts as to the accuracy of this statement. The muscle, in passing to its insertion, crosses over the head of the femur. When the muscle contracts, the power exerted indirectly from before backward, on the head, is sufficient at least to counterbalance the direct force of the muscle applied upon a shorter lever.

The description of the peritoneum is not sufficiently minute. Doubtless the author described it in the way he considered the most useful. To some it may appear that this description ought, in consideration of its want of practical interest, to be passed over in a general way. We think a demonstration of so intricate a structure, if undertaken, should be perfect. Nothing should be left to the imagination of the reader. Who, upon reading most carefully the description of the peritoneum, as it is found in most works on anatomy, is not irritated, when after patiently following the author through with his labarynthian reflections, he is told that it is a shut sac, in which the author himself has left a gaping void? Who can conceive of the cavity of the lesser omentum as a shut sac, capable of inflation, when in the description no mention is made of the reflection of peritoneum from the 'left extremity' of the lesser omentum to the gastrosplenic omentum, spleen and diaphragm.?

We consider the substitution in the book of English for Latin terms, wherever practicable, an excellent feature. Apart from the advantage gained by the student, by the simplification of names, the sound and significance of which, hitherto, have so much monopolized the mind of beginners; we hail it as another step toward the explosion of a bubble—we have not the predilection of King James for the *communis lingua*.

For ourselves, we have adopted this book for review and dissections, and we find it a much less grave companion than our somewhat dingy, but indispensable Cruveilhier.

J. B.

A CORRECTION.

We have received the following note from Dr. BARTLETT:—

DR. YANDELL:

Dear Sir; I have just read your notice of the critical remarks of Dr. TINGER upon Dr. DRAKE'S work.

The word *cures* in the sentence upon which you have properly enough commented, is but one of the many and gross typographical errors with which the issue of the journal in which the translation appeared was flooded. It should have been printed *cases* of chronic hepatitis, not *cures*.

I shall be obliged to you if you refer to this correction in your next number.

Respectfully,

JOHN BARTLETT.

August 11, 1854.

THE WEATHER AND THE HEALTH OF THE CITY.

The dog-star rages still. There is no abatement of the intense fervor of the summer. The mercury in Fahrenheit's thermometer is mounting up towards blood-heat, as we write, having risen on the 12th and 13th of the month as high as 98°, and this after a July unprecedented for the intensity of the heat. A drouth is prevailing which threatens all the growing crops, and has already seriously affected the corn. But in the midst of this most unwonted weather the health of the city continues good.

We give on the next page a meteorological table for July, prepared by our friend, LAWRENCE YOUNG, Esq., the eminent horticulturist and scientific farmer, of Jefferson county.

METEOROLOGICAL TABLE, FOR JULY 1854.

BY LAWRENCE YOUNG, ESQ.

Day of month.	Morning.	2 o'clock, P. M.	Evening.	Mean temperature.	Barometer.	Rain-gauge.	Course of wind.	Remarks.
1	70	94	85	83	29.51		n. e.	Variable.
2	72	94	87	84	29.60		e. n. e.	do
3	69	95	83	82	29.56		w. s. w.	do
4	73	96	79	83	29.52		s.	do
5	72	95	77	81	29.52		s. w.	do
6	68	89	81	79	29 53		s. s. w.	do
7	71	93	83	82	29.57	10	s.	do
8	73	92	77	81	29.58	79	s.	do
9	71	74	77	74	29.58	16	n. n. e.	Cloudy.
10	67	82	74	74	29.63		e. n. e.	Clear.
11	53	83	69	68	29.61		n n. e.	do
12	59	83	74	72	29.61		n.	do
13	57	86	77	73	29.62		n. n. w.	Variable.
14	55	88	79	74	29.56		n. e.	Clear.
15	57	92	80	77	29.61		w.	do
16	53	94	84	78	29.59		w.	Variable.
17	69	97	78	81	29.70	12	s. w.	Cloudy.
18	68	98	84	83	29.68		w.	Clear.
19	62	98	83	81	29.56		n. n. e.	do
20	65	101	88	85	29.48		w. s. w.	do
21	69	101	79	83	29.50	16	w. s. w.	Variable.
22	72	98	82	85	29.50		w. s. w.	do
23	66	96	86	84	29.53		w. s. w.	do
24	65	97	81	81	29.55		w. s. w.	do
25	75	95	86	85	29.40	15	s.	do
26	66	77	70	71	29.52	12	n.	do
27	54	87	75	72	29.71		w.	Clear.
28	55	94	81	77	29.66		w.	do
29	65	96	87	83	29.58		w.	do
30	67	99	88	84	29.63		w. s. w.	do
31	71	99	92	87	29.68		w.	do
				79.5		1.60		

Record of Medical Science.

"M. Cl. Bernard on the Physiology of Absorption, and on the Abdomino-Renal Circulation. Report of Lectures, with Vivisections, delivered in Paris, 1853, prepared by F. Peyre Porcher, M. D. Paris 1853—4.

We must remember that absorption diminishes in the stomach during digestion, both on account of the afflux of blood and the pouring out of the gastric juice. In inflamed tissues, also engorged with blood, absorption is much less active.

There are two varieties of absorption—the one by the chyliferous vessels, and the other by the vena porta, each of which selects peculiar substances; the election depending, in some measure, upon the necessity or not for certain of these to pass through the liver, or to proceed immediately to be eliminated by the kidneys.

Starch and sugar, we know, are absorbed into the vena porta.

Cane sugar introduced into the stomach as cane sugar, undergoes no change in the intestines into any other substance; it is absorbed as cane sugar, though a small portion of it, by acid reaction, is changed into grape sugar. In dogs and horses a very large proportion enters the vena porta in its original condition.

Milk sugar only differs from the others in submitting, with difficulty, to alcoholic fermentation; though the pancreatic juice renders it fermentable. You do not, therefore, find much of this in the vena porta.

Raisin or grape sugar is absorbed as grape sugar in the vena porta.

Cane sugar cannot serve as a nutritive substance as cane sugar; for, if you inject it into a vein, it is found eliminated as sugar, and not absorbed. But, by passing through the liver, it undergoes a transformation which renders it subservient to nutrition, by the process which converts it into grape sugar.

Now, if you inject grape sugar into the veins of the neck, you will find a part of it only in the blood, there being a certain amount of it which is really destroyed in passing. This species of sugar is also modified by the liver, which gives it a different physiological character.

Diabetic sugar, corresponding chemically with that of the grape,

differs from it physiologically, as it is more easily absorbed and destroyed when injected into a vein.

The results of these observations teach us, that it is essential for all sugar to pass through the liver to undergo the fermentation and destruction, which its simple passage through the intestines is insufficient to complete.

Albumenous substances, also, M. Bernard has ascertained, must pass through the liver to receive the modifications essential to its complete absorption into the system. This is found in the lymphatics and in the vena porta, which are so difficult to experiment upon. He injected the albumen of eggs into the jugular vein, and it made its appearance in the urine; hence, of course, it does not remain as a nutritive product in the blood, though portions are also found in that fluid—(another variety of albumen, when injected in like manner, was eliminated by the kidneys)—hence both require the liver for their complete transformation. The same albumen, injected into the vena porta, passes directly to the liver, and you find none of it in the urine.

Fatty matter does not enter the liver, as is well known, but it first passes to the lungs, when it is thrown directly into the general current of the circulation. There is a slight absorption of a small portion of it in the vena porta, but this is absorbed naturally and through no chemical change. It is not emulsionized as it is by the pancreas. This small portion, taken up by the vena porta, goes to the liver as fat, where it disappears. M. Bernard could discover no trace of its presence in the blood which had left the liver. Some physiologists sustain the opinion, that in this organ it enters into the formation of sugar; but this is not verified. It certainly disappears there, and does not pass out of the liver as fat; it may help to form bile.

So that the liver requires three kinds of substances—sugar, starch, and the small quota of fat just referred to.

Chyliferous vessels.—These are especially subservient to the absorption of fat. They are not found in fishes or birds: M. Bernard has fed pigeons on fat, and, upon examination, lymph was found in the vessels, but no fatty matter in suspension. In birds the latter is probably absorbed by the vena porta. In these animals the vena porta communicates largely with other veins, and there is, therefore, no absolute necessity for their contents to pass through the liver.

The liver thus appears to be interposed between the intestines and the grand circulatory system, to modify certain substances preparatory to their entrance, and prepare certain products for their elimination.

The liver has another duty to perform, viz: to prepare an equilibrium between certain substances; as, for instance, when the proportions between flesh, viands and ordinary food, varies; whether

one is introduced in too great quantity, or the reverse, it is the liver which makes up for the deficiency, or converts what is superabundant into another product more congenial to the requirements of the system.

An animal, nourished exclusively on vianda, has these azotized substances converted by the liver into sugar; and the exclusive diet produces no effect upon the blood proportionate to the quantity introduced by means of its reduction during its passage through this organ, which exists, as it were, as a balance to preserve from the injurious influences of excess. Its anatomical position, also, with relation to the other organs, supports this idea founded on its physiological action.

There are three maladies affecting the human economy, which depend upon different modifications of the liver and its secretion, viz: diabetes, albumenuria, and fatty or chylous urine. But these need only be referred to at present.

The whole of the ingesta is not always absorbed—a large part is carried off with the secretions which might still have served the purposes of nutrition.

The residue is composed of—1st. What is refractory to the digestive process, as corneous substances—certain epidermic coverings, insoluble phosphates, etc. 2ndly. Substances which are expelled because not digested; as when an animal is fed on fecula in excess, that only is absorbed which is converted into sugar, whilst the remainder is voided unchanged. The same is true of fatty matter in excess, which also escapes in a condition very similar to that in which it entered.

What, then, is the reaction of the coecum, that some talk so much of? The coecum, M. Bernard stated—and we saw experiments on a dog which confirmed it—has a acid reaction, but no new digestive powers. Some describe it as a second digestive stomach or cavity. The reaction of the coecum is sometimes alkaline; this depending upon the excess of certain products of digestion, or certain kinds of food introduced into the stomach. A superabundance of starch and sugar consumed by an animal, is changed to actic acid, and, when it reaches the coecum, of course presents an acid reaction. Exactly the reverse occurs if the animal had been fed on azotized substances. The coeca of carnivorous animals, consequently, present an alkaline reaction which can be reversed by altering the character of the diet.

The coecum is not, then, an organ of secondary digestion. The well known phenomena of spontaneous decomposition which occurs there, depend upon extrinsic causes. M. Bernard does not account for the odour which characterizes this portion of the intestinal tube. The great variety in the size, and the absence even of the coecum in some animals, is another strong argument

to prove its comparative unimportance. In the horse it is very large, and in the dog quite small.

All substances absorbed, which pass through the liver, do not go directly to the general circulation. They seem to be arrested by this organ.

Through the kidneys, also, many substances enter without making the circuit of the general circulation. There appears to be a peculiar abdomino-renal circulation, by which the quality of urine is altered independently of any influences derived from the circulation through the heart. In many animals a great deal of fluid substances go directly to the renal vein without reaching the liver. In almost all animals, with the exception of the mammifferous, there is a considerable amount of substances ingested, which circulate through the kidneys without even coming in contact with the lung.

In some animals the kidney is really an organ with functions, varying considerably from that of others. A carnivorous animal, during digestion, has the character of its urine materially altered in the proportion of its constituent. There being two species of normal urine—that secreted by the veins, and that eliminated from the arteries—they must, of course, vary with the ingesta.

M. Bernard, to test some of the changes which food of various kinds undergoes during digestion, and to obtain some of the chyle of the thoracic canal, placed a dog upon the table which had been fed on mixed food, composed of starch, sugar, viands, fat, etc. It was then killed by passing a sharp pointed bistoury into the medulla oblongata, and, upon examination, the intestinal canal presented the following peculiarities: The chyle of the thoracic canal had a whitish appearance, like emulsionized fat. The stomach gave an acid reaction, and he found starch in it. This reaction was traced some distance in descending the intestinal tube. Little green particles of albumen, precipitated by bile, could be seen in the duodenum, which gradually disappeared lower down. The cœcum was veritably alkaline.

There is a relation between the circulation through the kidneys and vena porta (abdomino-renal circulation) and the general circulation, which varies under certain circumstances—as during the absence and presence of food in the stomach—and which it is important to observe.

An animal which has, for a long time, been abstinent, receives a large quantity of food in its stomach; a draught is suddenly made upon the vena porta, which differs from other veins in its not only carrying all the blood of the mesenteraic veins, but it is also, at the same time, charged with the carrying off almost all the substances absorbed from the intestines; in this respect resembling the pulmonary artery.

Now in some animals, as in horses for example, there are veins

passing directly from the vena porta to the vena cava inferior; and, when the former is much swollen, a portion of its contents pass to the latter without traversing the liver. So that just below the diaphragm is often very much distended, on account of the accumulation. A very small portion of its contents pass to the heart; the valves existing there (preparations of which were exhibited) prevent it from descending, and it is forced to reflow through the renal veins to the kidneys. So that, indeed, the kidney is between two pressures; and the secretion of urine must depend somewhat upon whether the animal is or is not in full digestion. The acid of the urine becomes alkaline during digestion, and its secretion is much increased in quantity.

During this pressure upon the valves of the vena cava, of which we have just spoken, the blood of the lower limbs goes by the vena azygios. The latter in these animals (the horse, for example) is very large, to compensate for the varying demands made upon it. After the hurry of digestion is over, the vessels cease in a measure to expand, and the blood then reflows along the vena cava, and finally gains the heart as ordinarily. But we see from the above, that a certain quantity of alimentary substances goes directly to the kidney, without reaching the heart. And the same is true of man, in whom, though with shorter intestines, it is less distinctly observed. M. Bernard was enabled to study the process with more advantage in animals with a larger and longer intestinal tube. By this view we see in what way the kidneys are enabled to maintain a balance in the circulation.

If prussiate of potash is given to an animal during full digestion, it is absorbed and passes through the hepatic and renal circulation, by which it is eliminated; a very small portion, if any, reaching the heart. A reverse condition takes place if another, which has fasted for some time, is fed on the same substance; the greater portion of it is received into the torrent of the circulation, by means of which it is conveyed to distant parts of the system. This explains the variety in the action of the same or a smaller dose of a poison, when received into the system at different times; in the one case quite a large quantity may be eliminated with the urine, and rendered innocuous, when a much smaller amount, swallowed on an empty stomach, would have been attended with dangerous or fatal consequences.

Now, the physiological fact, that at certain digestive periods a larger portion of the absorbed aliment passes to the kidney without reaching the heart, receives anatomical development in some animals in whom the vessels, which contribute to this, are in more constant service, and become proportionally enlarged. The renal veins have a very important role to play, and one can witness, by making a small aperture into the abdomen, the reflux through them. In the English race-horse they are very much increased in

size, from the constant rapidity with which the circulation is often kept up. The same excessive development is observed at the *abattoirs*, among animals which have been worried or run down; in which case there is considerable hepatic engorgement, with increase in the demands made upon the portal veins, together with those contributing to the functions of the kidney. [We know, also, that if the vena porta is injected after death, it produces considerable expansion on the liver; being invested by the capsule of glisson, its walls are not adherent to the liver like the hepatic vein, and thus admit of an increase in size.]"—*Charleston Med. Jour.*

Velpeau.—Here is a true veteran for you; here is a surgeon with the three requisites—a lady's hand, an eagle's eye and a lion's heart; here is the man who enjoys the "*digitis monstror præterientium:*" you see, at last, him that you have been hearing of all your life, and before you ever thought of medicine; you have, perhaps, heard your cousin or your friend, who was in Paris years before you, speak of seeing Velpeau cut off an arm, or a hand, on such and such a morning, and you yourself also watch him do the same thing, on the same spot, fifty times; in fact, you see him perform two or three operations almost every morning you take the trouble to be at his amphitheatre at La Charité. He will cut for stone, operate two or three times for cross-eye, take out tumours from the breasts of two or three women, amputate a finger, a thumb or a leg, almost any morning you choose to name, after he has visited these long lines of beds up stairs and down stairs, in male and female wards, and after he has lectured an hour, and all before breakfast. Heaven knows at what hour he has risen!—what he has not written in one of the works he is publishing, on the "*Maladies du Sein et de la Region Mammaire*," or some other. But I do know that he has not yet finished, because, before his carriage and pair leave the Rue Jacob, in front of La Charité, and when you have gone to the Café de Paris, to Madame Dijon's, to 66 Rue de Seine, or with me to my rooms on the garden of the Luxembourg, *he* has remained to prescribe for a score of what are called out-door patients, whom he examines as fast as they can be marshalled in a room on the ground floor. Then M. Velpeau's private consultations at his own residence, and his visits, have not yet commenced. But notwithstanding, you will sometimes meet him on the *Pont Neuf*, or the *Pont de Carrousél*, with a young lady on his arm, as like as father and daughter can be, as they walk to the Louvre or the garden of the Tuilleries. And you ask again is this man, strolling quietly by, the hero of a hundred bloody operations, the creator of bold systems, and originator of new modes of practice—the bold generalizer, who has laid a mas-

ter hand on almost every department of medicine; who has written a hundred volumes, whom everybody quotes, even men who study specialities, and who recognize that, during a life of ceaseless toil and exertion, *he* has made a speciality of every department of his profession, and has rendered himself as competent to pronounce upon their respective merits as any enthusiast of a single one, whether it be in surgery, materia medica, obsterics, physiology, diseases of the eye, or anything you please to name. M. Velpeau is a bold, successful innovator in each and every one, and he has stamped his name in every text book that the student uses. He has written, and now writes, tomes filled with costly illustrations, which the medical world reads and consults, and swear at, sometimes, but always quote or follow. There are none so dauntless as not to do him reverence, none so bold but do not ask what Velpeau said this morning at a clinique. Does he discover anything, he goes to have Velpeau test, and make it go down. With Velpeau's sanction, he is confident against the world in arms, and goes forth with redoubled zeal. Does Velpeau damn the new project, it is like a dash of cold water, and the thermometer of his ardour falls instantly. I think that, generally, M. Velpeau, after his very large and most enlightened experience and observation, has a right to pronounce, and that he does so cautiously and with discrimination. He has, at times, been quick, and perhaps wrong, and now I think the microscopists will make him rue the day that he decided too dogmatically against their true and false cancers; for, already M. M. Lebert and Robin will show him that the glass is surer and more unerring than the unaided experience of even *his* eye and finger, and he will confess, or what is worse, posterity will do it for him, that true cancer and the unmalignant fibro plastic growths reveal themselves by signs, more certain than those gained by observation and sight simply. Perhaps, too, M. Ricord, or his successors, will demonstrate, that in proclaiming his doctrine of syphilization, a true advance has been made which time will sanction and enforce, and that its cardinal points are *real*, which M. Velpeau utterly repudiates and rejects *ab ovo*, root and branch. Velpeau must recollect that Ricord, though young and vigorous, resembles him in one respect—*he* does not take vacation either.* An old man, however great, is apt to remember triumphs won in youth from giants, and he grows too confident thereby. He is apt to forget that the tables turn, as age advances and years roll by, and when the conflict lies between the old and the youthful, but, at the same time, the vigorous, the cautious and the observant.

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*M. Ricord informed me that, with the exception of the last, he had not indulged in the ordinary *vacance* of the Paris doctor, for twenty years. He is at the *Hospital du Midi* the year round.

As a lecturer, Velpeau is not remarkable, though he is sufficiently fluent and pleasant. Some new comers find his French easy to understand; but though he does not mumble his words, and splutter, as M. Roux did, yet there are several in Paris who speak very much plainer and better than he. I could cite Trousseau and Maisonneuve for examples. His tone is somewhat monotonous, and however enlivened by an occasional dry jest, yet there is neither much eloquence nor brilliancy. But Velpeau's attraction is his fame, his knowledge, and the perfect flood of light which his vast experience enables him to throw on every subject. You feel that he utters opinions which you can set down as rules and axioms for your guidance in practice. He speaks *ex cathedra* upon every topic; his words are golden, for they flow refined from a vast mass of material collected during years of earnest toil, a toil directed by an enlightened understanding, and guided by an acquaintance and comparison, with not simply the stores of the past, but with the improvement of modern research.—*Charl. Med. Jour. and Rev.*

Chloroform in Strangulated Hernia.—By B. F. Taylor, M. D., of Louisiana.—Of all the maladies to which the human body is subject, that of irreducible hernia is probably the most formidable and important, calling forth the greatest amount of surgical and anatomical knowledge, requiring the most prompt and decisive action, as well as the utmost skill and dexterity in the performance of an operation, when that is rendered necessary by the inefficacy of the means usually employed to accomplish its reduction. In most surgical diseases, the patient can have the advantage of consultations with the most talented and experienced of the faculty, but not unfrequently an hour's delay will prove prejudicial to the success of the surgeon and fatal to the prospects of the patient.

It is known to practical surgeons, that the best directed efforts of the taxis, the use of cathartics, opium, bleeding and tobacco injections, not unfrequently fail in relaxing the strictured parts. In view of these difficulties, it has often occurred to me—since the introduction of chloroform as an anæsthetic agent in surgical practice—that the full influence of this article would fulfil the indications above spoken of, and probably dispense with—in the majority of cases—this formidable operation.

A case in point occurred recently, in my practice, where I had an opportunity of testing the correctness of these views. The patient, a middle aged man, had been afflicted with a hernia on the left side for a considerable length of time. Upon one occasion, when employed in wood-chopping, the hernia became stran-

gulated; when I was sent for, and reduced it readily by the taxis. More recently, this man being engaged in the field with his hoe, strangulation again occurred. Upon visiting him I found his suffering to be very intense; pain in the abdomen and stomach, vomiting, &c. The tumor was very large and tender to the touch. The stricture, as is most generally the case in inguinal hernias of long standing, was situated at the external abdominal ring. The taxis was resorted to, and persevered in, but without beneficial results. He was then put under the full effect of chloroform. Relaxation of the external oblique muscle, and the stricture at the ring, was evident to the touch. The taxis was again resorted to, when the gut readily returned with a distinct gurgling sound.

This case is reported for the sole purpose of calling the attention of surgeons to the practical value and use of this most potent of remedies. It is an isolated fact, it is true; but in all cases where relaxation of the voluntary muscles is the object to be obtained—such as luxations, hour glass contractions of the uterus, &c.—we are strongly convinced that the practioner's most sanguine hopes will be more than fully realized.

Medical Pathology and Therapeutics, and Practical Medicine. *Pyrosis, its Causes, Pathology and Treatment.*—Dr. Geo. Budd, in an interesting lecture on Pyrosis, observes it is most probable that the disorder in countries in which it is endemic, is mainly owing to the influence of climate and to the diet of the poor not being sufficiently varied, and consisting too much of coarse and innutritious farinaceous food.

But if such be the main causes of the disorder, there are, doubtless, various other conditions that assist in bringing it on. Most of these may be classed under two heads:

1. Excessive labor, insufficient clothing, loss of blood, and all other conditions that tend to exhaust the body.

2. Pregnancy, constipation, anxiety, and other conditions that tend to disorder the functions of the stomach.

We have already seen that waterbrash occasionally occurs in a high degree in the wealthy classes, especially in women, where it cannot be ascribed to any peculiarity in diet, and seems to be owing solely to such conditions as these.

Pyrosis, then, considered with reference to its exciting causes, is of two kinds:

1. That which has been termed by some writers *symptomatic* pyrosis, which is brought on (without any peculiarity in diet) by pregnancy or some other condition that disturbs the functions of the stomach.

2. That which has been termed, in contradistinction to the

former, *idiopathic* pyrosis, which prevails chiefly among the agricultural poor in rural districts, and which seems, in most cases, to be mainly owing to defective diet.

Many conditions conspire to render the disorder much more frequent in women than in men. Women are much more frequently in states of debility from the nature of their constitutions, and from their having in suckling and in excessive or unnatural uterine discharges, causes of exhaustion from which men are exempt; they have also more excitable nervous systems, and, in consequence, the functions of the stomach in them are more apt to be deranged by mental influences and by disease in other parts of the body; and among the lower classes, they have generally a less nutritious diet, since the men, in order to support their more laborious work, take or have accorded to them a larger quantity of animal food and of malt liquors than is consumed by the weaker sex.

In the treatment of waterbrash, our first endeavor should, of course, be to remove the conditions that may seem to have brought it on or to maintain it.

If the disorder should seem to be caused mainly by a diet not sufficiently nutritious, or consisting too much of farinaceous substances, the most effectual remedy will be a wholesome nourishing diet, containing a proper quantity of animal food *in its most digestible form*. Little permanent benefit can, indeed, be expected from medicine unless the diet is improved.

If the disorder should seem to have been induced, or to be kept up, wholly or in part, by fatigue, it is very essential that the patient should rest; if by constipation, that this condition should be removed by purgatives, such as aloes or colocynth, that do not offend the stomach.

After these points have been attended to, much further good may be done by medicines.

The medicines that have been found most useful in pyrosis are:

1. Medicines which have an astringent action on the coats of the stomach. Among these may be classed bismuth, lime-water, and the vegetable astringents—kino, catechu, krameria, logwood.

2. Sedatives, especially opium and the salts of morphia, which probably also tend to restrain undue secretion by the mucous membrane, but which are chiefly of use in allaying the gastralgia that attends pyrosis.

Medicines from these two classes may often be combined with advantage. Five grains of bismuth with a twelfth of a grain of the muriate of morphia, or five grains of the compound kino powder, or an efficient dose of catechu, krameria, or logwood, with opium, may be given two or three times a day.

3. Some other medicines have obtained repute in pyrosis which cannot be classed with the preceding. They have most of them

an astringent action on the coats of the stomach, but act, directly or indirectly, on the nervous system as well.

The chief of these are, nitrate of silver, which may be given in pills, in doses, of half a grain, three times a day; nux vomica, which may also be given in pill, in the dose of from three to five grains, three times a day; quinia; and the mineral acids.

Some of the medicines I have mentioned have been popular remedies for pyrosis in districts in which the malady has prevailed.

It is stated that nux vomica is a popular remedy among the Laplanders, to whom it was recommended by Linnæus, and that lime-water was some years ago a popular remedy among the rural population of North Wales.

4. The disorder is often connected with anæmia; and steel is of great service, both in removing it and in preventing its recurrence.

The medicines of which I have had most experience in disorders of this class, and which are probably as efficacious as any, are bismuth, with morphia; krameria, and logwood, with opium; and steel.—*Med. Times and Gaz.*

Neuralgic Headache. By J. Murphy, M. P.—Neuralgic headache is synonymous with those headaches described by some old authors as hemicrania, by others as clavus hystericus, and by Dr. Graves as hysterical congestion. It is *peculiar* to females, and to females during a certain period of their existence only, from puberty until the final cessation of the menstrual secretion. Dr. Graves gives a graphic description of the symptoms and of the injurious effects of the usual routine of treatment. He calls it hysterical congestion; but he seems not to have understood its true pathology. There is no doubt of its being hysterical; but there is no congestion, for the seat of the pain is in one of the nerves of the scalp, which can be easily proved by a slight examination, and it is therefore an external headache. The error may have arisen from his having met with cases where this headache was in combination with the anæmic headache. The proper name which should be bestowed on this headache, in order to facilitate the diagnosis, is spinal irritation of the sub-occipital nerve. Spinal irritation is beginning to be well understood in this country; we are indebted to a French physician, M. Valleix, for the discovery. Since then many other disorders, such as irritable mammæ, pleurodyne, and neuralgic headache, are discovered to originate in functional derangement of the spinal cord; and I believe whoever will carefully compare these disorders with cases related by Dr. Tilt, must come to the conclusion that they are nothing

more than symptoms of subacute ovaritis. They are hysterial disorders, and *hysteria is subacute ovaritis*, which displays its phenomena on the sensitive and motive nerves of the spinal column.

On comparing the neuralgic headache with the phenomena of spinal irritation in other parts, we find how exactly they coincide. Like spinal irritation, it is a form of hysteria, and therefore peculiar to females. It is not only peculiar to females, but attacks them only during the menstruating period of their existence; that is, from about the thirteenth to the fiftieth year. It is exacerbated just previous to menstruation, makes its first attack on the left side, and rarely passes over to the right side.

Cause.—As this form of headache is peculiar to the female sex it must therefore have its origin in some organ peculiar to them; and as it is felt during a certain period of existence only, the organ must have the performance of its functions limited to that period. As there is no organ by which these two facts are explicable, unless the ovarium, it is not unphilosophical to conclude that the disorder proceeds from the ovarium. There is certainly also the uterus, but the functions of this viscus cease on the removal of the ovaria. We daily meet with the uterus inflamed, ulcerated from cancer or cauliflower excrescences, distended by hydatids or pregnancy, producing moles and polypi, but none of the phenomena of spinal irritation are present. In the married female, who bears children regularly, it is scarcely ever known. Before the commencement of menstruation, or after its termination, it is equally rare.* What is the state of the ovarium, I do not pretend to affirm. If inflammation, yet it has often yielded to tonics; it may depend no moral causes, but such an explanation has never satisfied me. An accumulation of fœces in the rectum has appeared to me as occasionally the source of irritation; in a few cases, I think it was traceable to ascarides in the rectum. We witness the action of cold in paralyzing the trunk of a motor nerve, the portio dura, as it escapes from its cranial foramen; but cold cannot be a cause of this headache, otherwise why should not the male sex equally suffer.

Occasionally, spinal irritation, in other parts, has been observed earlier in life, but I have not met with the headache; and, as the headache has occurred some years before the appearance of the menses, so I believe it possible it may arise a few years after their total cessation. The headache resembles spinal irritation, also, in a curious and hitherto unexplained phenomena; *commencing* on the left half of the body, we occasionally met with it also on the

* While writing the above, I referred to Dr. Tilt's work on Diseases of Females, first edition, and on page 58, he gives the valuable fact that he found the right ovary affected in only five out of seventeen cases. Now, it might be worth inquiry to ascertain whether the left had not been previously affected, but that the irritation was transferred to the right, as we see in ophthalmia occasionally.

other side; but I have never discovered that it began there, nor is it ever restricted solely to that side. When both sides are attacked they are equally so, the left being by far the more painful. As another proof of its being spinal irritation, if further proof be necessary, we find it under two distinct forms, and these forms are easily distinguishable by the nature and extent of the pain. In the one, it is confined to the exact tract of the sub-occipital nerve, it is lancinating or shooting, intermitting, and chiefly felt at its termination in the integuments of the temporal region; when severe in this spot it is the *clavus hystericus*. When the whole course of the nerve and its branches are implicated, the entire left side of the scalp is very tender, sometimes exquisitely so; this is the hemicrania. It is singular how much this disease is confined to the left side of the head; we find such to be the fact in ninety-nine cases out of a hundred. It seldom reaches the aggravated form of *clavus hystericus* without being accompanied with other well-known hysterical symptoms, which of course, facilitate the diagnosis.

Diagnosis.—This headache attacks females exclusively. I have never heard or read of men suffering from this kind of headache. It is only during the menstruating period of life that even females are liable. The pain is referred to the left side of the head; it is worse on the approach of the menstrual flow; it is found in the track of the sub occipital nerve. The course of this nerve is well known; it accompanies the sub-occipital artery, emerging from the spinal canal; it passes along the back of the head, midway between the mastoid process and the mesial line, sending branches to the integuments which cover the parietal protuberance, and terminating in the temporal region. Its course, from its exit to its termination, can oftentimes be accurately ascertained, from the pain induced by pressing upon it. Although the head suffers, pressure may not always produce the pain, for it is intermitting. In general, however, pain may be thus detected in one of three places; on the left side of the neck, where the head and vertebræ join, at the parietal protuberance, or in the temporal region; when concentrated in the last spot, it is the well-known clavus. It is sometimes painful in all three, and sometimes in its whole track. It is, however, rare that the tenderness is absent in the occipital region. The part suffers more when pinched than when pressed. When the branches as well as trunk suffer, we then have hemicrania, a most painful form, less intermitting than the other, and preventing the unfortunate female from lying on the affected side. It is more commonly met with in the unmarried female, from the twenty second to the thirty-fifth year; but the married females who are childless do not escape.

This headache is chronic, intermitting, may continue for days, weeks, or months, then subside, and return after a lapse of months

or even years. A first attack is seldom felt before the twentieth year, nor after the thirty-fifth. The pain is generally of a shooting kind, darting from the neck towards the temple, and never towards the neck, by which it is easily distinguished from odontalgic pain. Neuralgia of the left mamma (irritable breast), or of the seventh or eighth intercostal (pleurodyne), frequently coexists. It is sometimes found in combination with the anæmic, but more rarely with the congestive headache. From caries of the body of a vertebra it is easily distinguished by the pain being superficial, being confined to the left side of the spine, by its not becoming worse when the head is flexed on the chest, nor by jumping, nor by pressing the head against the spinal column.

This neuralgic pain sometimes accompanies the rotated spine. It is singular how often toothache is mistaken for headache, especially for this form. In both, the pain is described as shooting in the course of the nerves but in toothache the pain shoots towards the neck and ear, leaves no tenderness of scalp, never goes so high as the parietal protuberance, and is more correctly discovered by learning that a paroxysm is brought on by food, sometimes when warm, at other times when cold.

Treatment.—If the disease be not complicated, we can promise relief. The bowels should be kept open by regulated diet, and by aperients, such as caster oil, olive oil, lenitive electuary, powdered rhubarb, soluble tartar, or the compound rhubarb pill. If the bowels are obstinate, an enema of a pint of cold water daily answers the double purpose of removing the contents which may irritate the ovary, and as a local application to the organ chiefly in fault. The cold hip-bath is a valuable remedy when the constitution is vigorous, but all these things are inferior to sea-bathing. Stimulants should be abstained from, employment should be found for mind or body, but physical efforts are preferable. The sedentary position required by the needle, especially in solitude, is very injurious. A sinapism over the exit of the nerve gives great temporary relief; a vesicating plaster of cantharides is better, but it oftentimes leaves a mark, and therefore, on account of sex, age, and position in life, may be objectionable. A croton-oil liniment, made with one drachm of oil and one ounce of camphorated tincture of opium, and rubbed until pustules appear, is preferable, as it leaves no permanent blemish. The belladonna plaster, mixed with powdered opium, or a liniment of extract of belladonna rubbed with mucilage, are useful and unobjectionable remedies.—Speedy relief is occasionally afforded by veratrine or aconitine ointment, made with from four to six grains to half an ounce of spermaceti ointment. The finger used in rubbing should have a piece of bladder interposed.

One ounce of tincture of aconite, with seven ounces of rose-water, is a safer remedy to trust to inexperienced hands than the

veratria. The internal medicines are not so easily chosen. Tonics are frequently required, and they may be combined with antihysteric remedies. The bisulphate of quinia may be exhibited in a strong infusion of valerian; compound iron pill, with assafetida in large doses, is very beneficial. If there be irritability of the stomach co-existing with profuse menstruation and leucorrhœa, pills of valerianate of zinc, half a grain three times a day, with one drop of creasote, answer many intentions. If there be much debility, the sulphate of iron may be combined with infusion of valerian and ammonia, or the ammoniated tincture of valerian may be prescribed. The pain is sometimes so acute that some relief is quickly demanded, and half a grain of morphia will lessen the pain for a while until other remedies have time to act. For the leucorrhœa, one drachm of acetate of zinc to one pound of distilled water is useful as a lotion. But we are sometimes perplexed, for the tonic treatment is not the best for a full plethoric female; leeching or even general bleeding is required, but the cases are rare which require general bleeding.

If the patient be not very weak, and there is much leucorrhœa and memorrhagia, the treatment laid down by Dr. Tilt for subacute ovaritis should be adopted. He leeches in the menstrual interval, and then blisters the iliac regions; but as his work is universally read, the treatment is well known. Sea-bathing, when practicable, should never be omitted.—*London Lancet*, May 20, 1854.

Acetate of Iron, for Aneurism.—*Radical Cure of an Aneurism of the External Maxillary Artery, by the Injection of the Acetate of Iron:* By Dr. Filippo Lussana, of Milan.—Antecedent to the experiment of Pravaz, a celebrated Italian surgeon, Monteggia, had suggested in the treatment of aneurisms "the injection of astringents into the sac, after entering it with a trocar, in order to obtain a prompt and durable coagulation of the blood, the artery being compressed above the tumor." (See *Istituzioni Chirurgiche*, vol. ii, 2d ed., Milan.) The idea of this operator was never carried out, however, and it remained for the skilful and persevering Pravaz to introduce this great improvement into the practice of surgery. Soon after the researches of Pravaz were made known, and the use of the perchloride of iron in aneurisms had been followed by some disasters, Dr. Ruspini commenced a series of experiments with a view of substituting some less deleterious agent for the perchloride of iron. He finally employed the acetate of the sesquioxide of iron, a salt which contains no principle injurious to the economy, and which possesses great hæmostatic power. This agent had only been employed in cases of slight

hæmorrhage and in experiments on animals, when Dr. Lussana determined to employ it in an operation on an aneurism. His experiment resulted most successfully.

M. Gelmi, a girl of twenty-two, presented an aneurismal tumor of the size of a large walnut, between the corner of the mouth and angle of the lower jaw. This tumor was punctured with a small lancet; arterial blood immediately issued in jets. A fine syringe was introduced, and ten drops of the ferruginous solution was injected. The hæmorrhage and pulsations were immediately arrested. The operation caused but little pain and no inflammation succeeded it. In ten days the tumor had sensibly contracted. An exploratory puncture was made in it without causing any hæmorrhage.—*Va. Med. and Surg. Jour.—From Gaz. Méd. de Paris, of Feb. 25th*, 1854.

NON NECESSITY OF SALT.—In Europe it is generally supposed that salt is a necessity of life, but here we never found it so. I was once on a riding excursion with Anderson and three other men for six weeks, and a pill box of salt was all we used. The Namaquas occasionally use salt, but they set no store upon it. There is no doubt that people who live on meat and milk would require salt much less than those who live on vegetables; but half the Damaras subsist simply on pig-nuts,—the most worthless and indigestible of food, and requiring to be eaten in excessive quantities to afford enough nourishment to support life. The Hottentots by Walfish Bay, who live almost entirely on the 'Nara gourd, and, who have the sea on one side and salt-springs in front of them, hardly ever take the trouble to collect salt, which they certainly would do if they felt that craving for it which distresses many Europeans. The last fact that I have to mention with reference to salt is, that the game in the Swakop do not frequent the salt-rocks to lick them as they do in America; and I am informed that certain New Zealand tribes not only eat without salt, but actually look upon it with distaste and aversion.—*Galton's Tropical South Africa.*